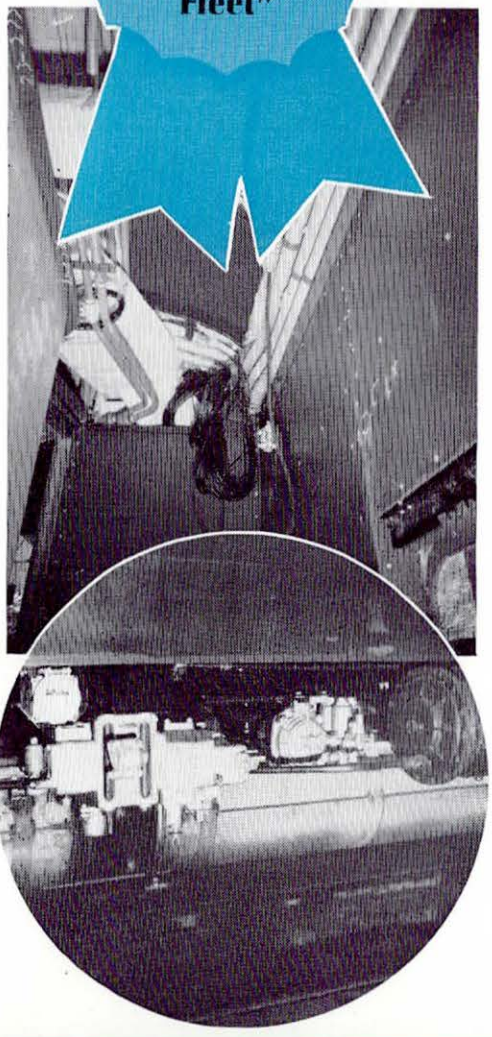
FOUNDED IN 1856

RAILWAY AGE

SEPTEMBER 25, 1948

McCARTNEY LIBRARY
GENEVA COLLEGE

New Cars for the Pennsylvania's "Blue Ribbon Fleet"



Water... Steam... and Air Piping are

BYERS WROUGHT IRON

Sixty new passenger cars—both coaches and sleepers—are being built for the Pennsylvania Railroad by American Car & Foundry Company. The cars, which are being put into service as completed, will serve on the Trail Blazer, the Jeffersonian, and other Blue Ribbon trains. To safeguard this new rolling stock against premature pipe failures and excessive maintenance, Byers Wrought Iron pipe was used for the water, steam and air lines.

Such piping in passenger cars may encounter corrosive attack—and it is sure to be exposed to severe vibration, which frequently causes early fatigue failures in vulnerable materials. Wrought iron provides vital protection against both these threats, and its widespread use by engineers is a convincing endorsement of its ability to serve longer, at lower cost per year.

The reasons for wrought iron's superior service qualities come directly from the unusual character of the material. Tiny threads of glass-like silicate slag, distributed through the body of high-purity iron, give a structure that might be compared to that of a stranded cable. The same fibers halt and "detour" corrosive attack, discouraging local pitting. The ease with which wrought iron can be bent, threaded and welded is a further reason for its use.

Our booklet, "The A B C's of Wrought Iron" tells in brief form what wrought iron is, how it is made, and why it serves so well. May we send you a copy?

A. M. Byers Co., Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Atlanta, Chicago, St. Louis, Houston, Salt Lake City, Seattle, San Francisco. Export Division: New York, N.Y.

BYERS
GENUINE WROUGHT IRON
TUBULAR AND HOT ROLLED PRODUCTS
ELECTRIC FURNACE QUALITY ALLOY AND STAINLESS STEEL PRODUCTS

CORROSION COSTS YOU MORE THAN WROUGHT IRON

LIGHTER... STRONGER... PERMANENTLY RIGID

The Logical Installation
For All Freight Equipment

A·S·F

CAST-STEEL UNIT BRAKE BEAM

AMERICAN STEEL FOUNDRIES

MINT-MARK OF ○ FINE CAST STEEL

Streamlined strength with Mayari R

One of 103 streamlined passenger coaches recently built by Pullman-Standard for the New York, New Haven and Hartford Railroad. Mayari R low-alloy, high-tensile steel was used extensively in these cars.

These modern New Haven passenger coaches hit a new high in comfort, safety, and gleaming good looks.

They were built largely of low-alloy, high-tensile steel, a considerable portion being Mayari R. This steel was all-welded into single, high-strength structural units of low deadweight. The finished cars are smooth-rolling examples of good design and effective application of this grade of steel.

Mayari R has been used in building many thousands of passenger and freight cars. Some of these cars emphasize weight-savings, some are designed for greater strength, while others combine both of these features. The wide use of Mayari R in car-building is due to its superior properties, its adaptability to modern design, its ready workability, and its economy.

For more information on Mayari R and how it is applied to advantage in railroad equipment write our nearest sales office for a copy of Catalog 209.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

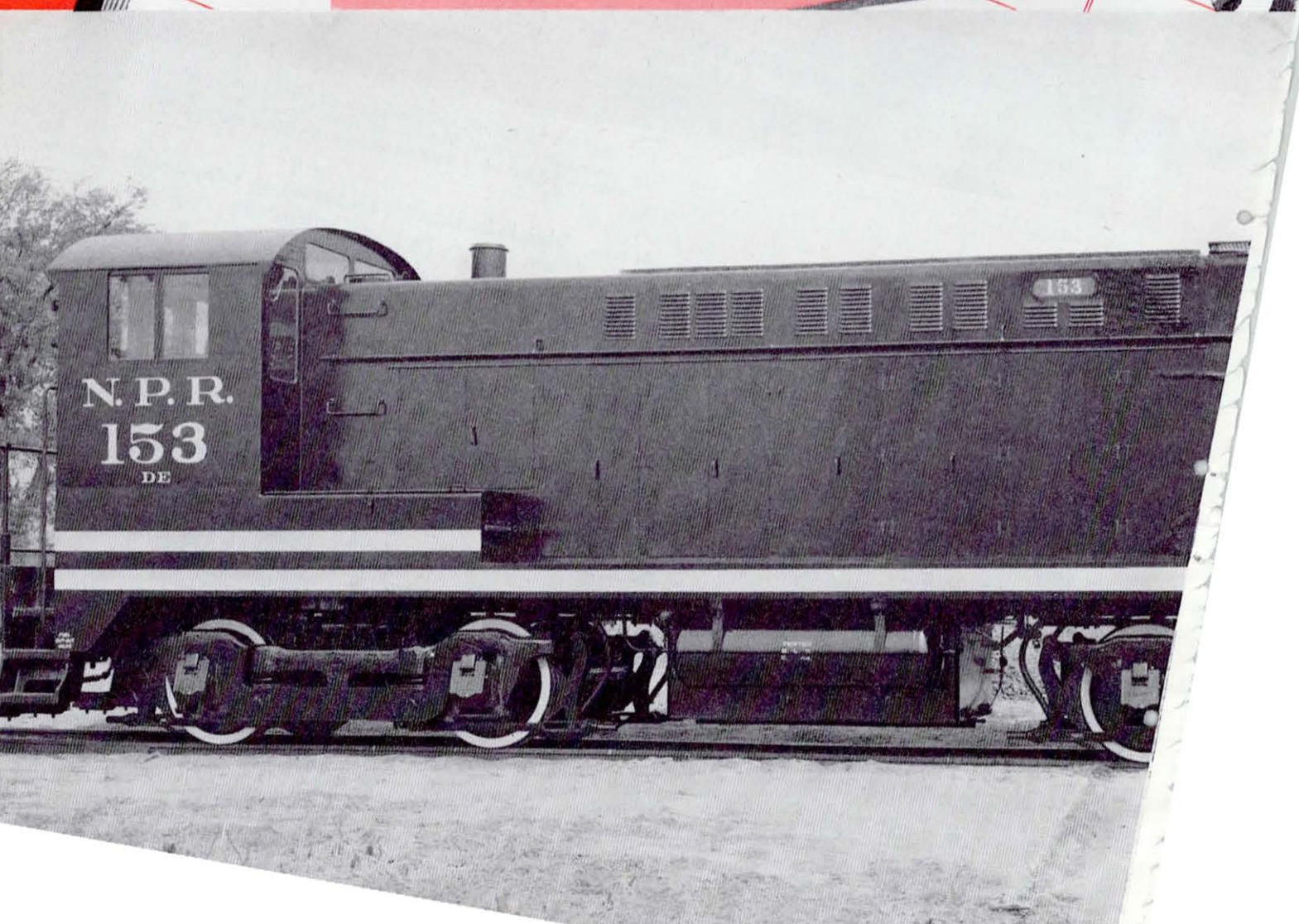
On the Pacific Coast Bethlehem products are sold by
Bethlehem Pacific Coast Steel Corporation
Export Distributor: Bethlehem Steel Export Corporation

★ BETHLEHEM STEEL ★

Mayari R *makes it lighter... stronger... longer lasting*

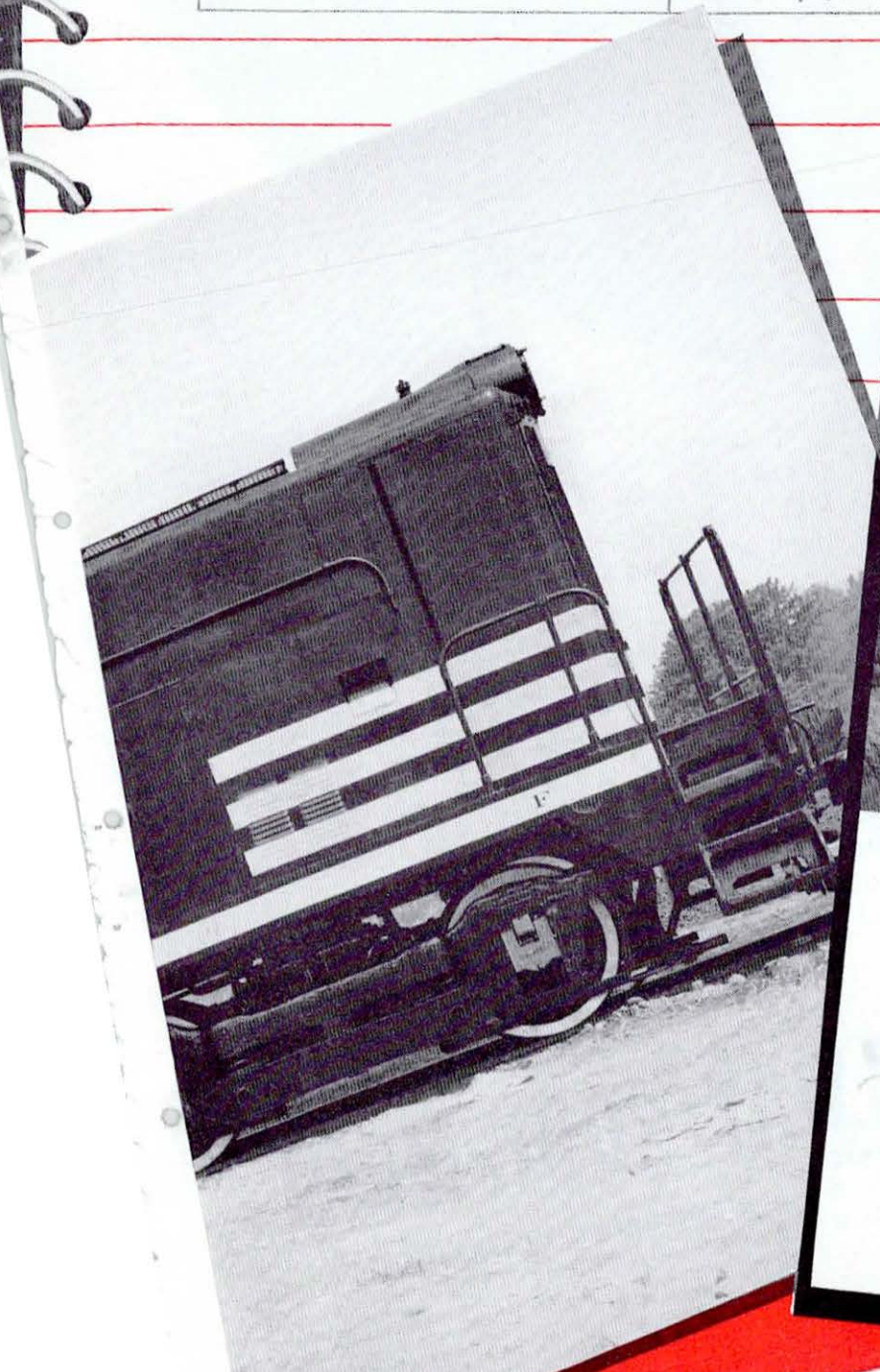
Published weekly by Simmons-Boardman Publishing Corporation, Orange, Conn. Executive Offices, 30 Church Street, New York 7, N. Y. Entered as second class matter at Orange, Conn., under the act of March 3, 1879. Subscription price $6.00 for one year, U. S. and Canada. Single copies 50 cents each. Vol. 125, No. 13.

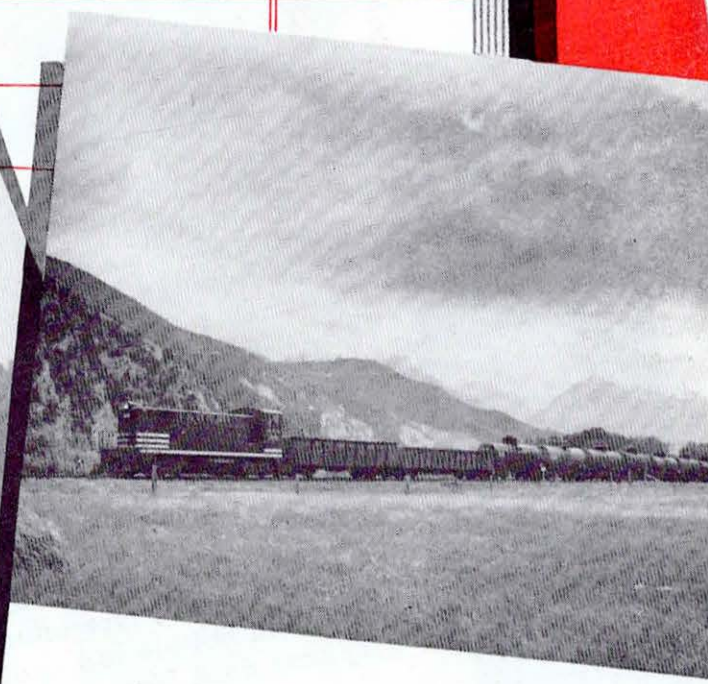
another example
of Baldwin
diesel locomotive
Economy



25 Locomotives
503,084 Locomotive Hours
3,018,504 Locomotive miles (based on 6 M.p.h.)
93.0% availability (based on potential hours)

AVERAGE COSTS (cents)		
	PER HOUR	PER MILE
FUEL OIL	39.20	6.53
LUBRICATING OIL	4.94	0.82
SUPPLIES	1.38	0.23
INSPECTION & REPAIRS	39.27	6.55
TOTAL	84.79	14.13

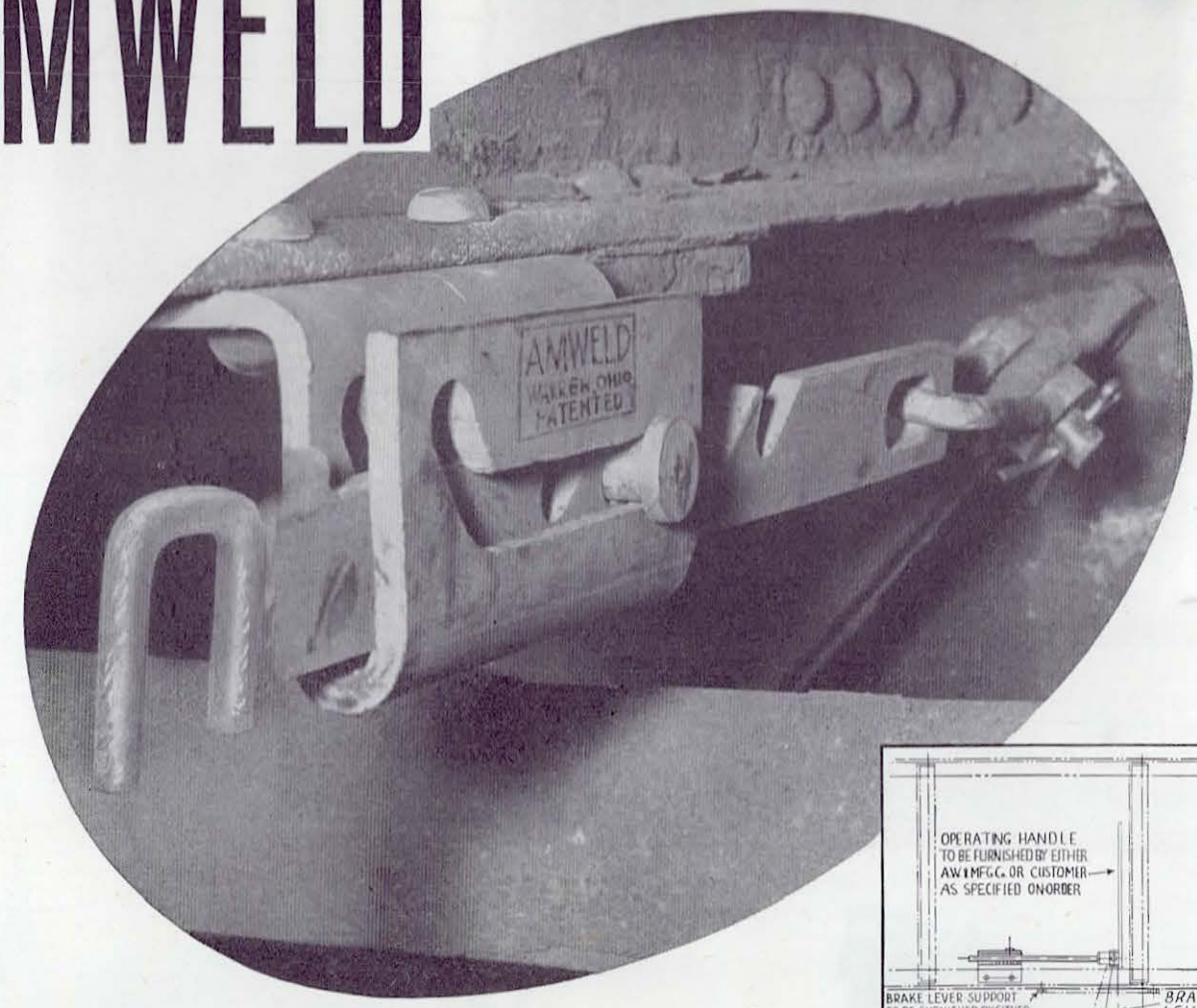




The Baldwin Locomotive Works, Philadelphia 42, Pa., U. S. A. Offices: Boston, Chicago, Cleveland, Houston, New York, Philadelphia, Pittsburgh, San Francisco, Seattle, St. Louis, Washington. In Canada: Canadian Locomotive Co., Ltd., Kingston, Ontario.

BALDWIN

AMWELD SLACK ADJUSTERS



Applications of "AMWELD" Slack Adjusters have been made on these railroads:

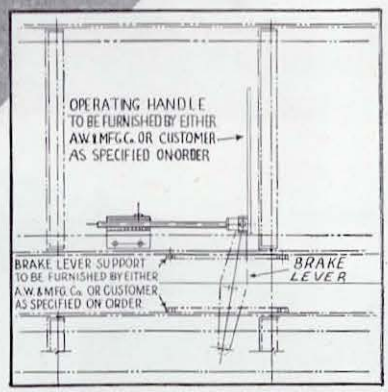
- Chesapeake and Ohio Railway Company
- Cudahy Car Lines
- Erie Railroad Company
- Ford Motor Company
- General American Transportation Corp.
- Mather Stock Car Co.
- New York Central System
- New York, New Haven & Hartford Railroad Co.
- Norfolk and Western Railway Company
- North American Car Corporation
- Union Railway Co.
- Virginian Railway Co.
- Wheeling and Lake Erie Railway Company
- Baltimore & Ohio R. R.
- Delaware and Hudson Railroad Corporation
- Interstate Railroad Co.
- Southern Railway System

AMWELD SLACK ADJUSTERS insure the proper operation of brake equipment and make it possible to maintain piston travel within the specified limits by a simple pull on a convenient handle.

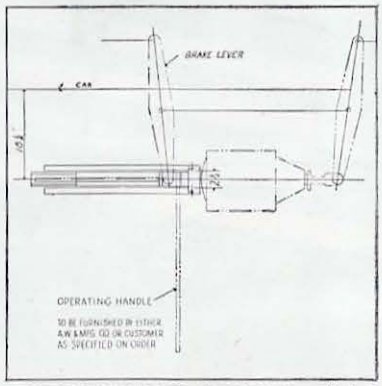
AMWELD SLACK ADJUSTERS eliminate the use of conventional dead lever guides and brackets thus affording a saving which can be applied against the cost of AMWELD Slack Adjusters.

AMWELD "T" SLACK ADJUSTER (shown above) is applied to any type of freight car equipped with bottom rod under bolster and replaces dead lever guides and brackets.

Please write us for more detailed information.


OPERATING HANDLE
TO BE FURNISHED BY EITHER
A.W. & MFG. Co. OR CUSTOMER
AS SPECIFIED ON ORDER
BRAKE LEVER SUPPORT
TO BE FURNISHED BY EITHER
A.W. & MFG. Co. OR CUSTOMER
AS SPECIFIED ON ORDER
BRAKE LEVER

AMWELD "B" SLACK ADJUSTER is applied with the operating handle extending toward the side sill at or near the center of the car.



AMWELD "C" SLACK ADJUSTER is applied to the back end of brake cylinder and is particularly adaptable to cars equipped with floating center sill.

AMWELD RAILWAY EQUIPMENT

DIVISION OF

THE AMERICAN WELDING & MANUFACTURING COMPANY

250 DIETZ ROAD • WARREN, OHIO

Rolling Steel Doors

Manually • Mechanically • Power Operated

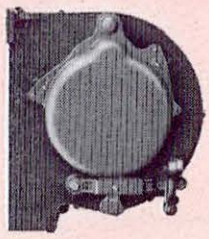
The vertical action of Rolling Steel Doors conserve space . . . they offer many operating advantages in addition to providing greater protection and longer life through the permanence of steel. These advantages are inherent in all doors of this type. But, in Mahon Rolling Steel Doors you get a greater door value . . . this is immediately apparent when you compare the details of construction and the materials employed at critical points. Operators too, have exclusive features which have proved very desirable from an every-day operating standpoint. See Mahon's Insert in Sweet's Files for complete information, details, and specifications—you will find that Mahon Rolling Steel Doors have been designed and manufactured to give trouble-free service for a longer period of time.

THE R. C. MAHON COMPANY

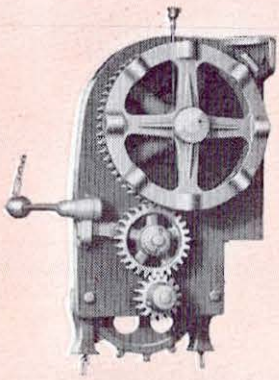
Detroit 11, Michigan • Western Sales Division, Chicago 4, Illinois

Representatives in All Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Underwriters' Labeled Rolling Steel Doors and Fire Shutters, and Mahon Steel Deck for Roofs, Sidewalls, Partitions, Acoustical Ceilings, Permanent Floor Forms.



Mahon Release Device and Governor on the Automatic Closing Mechanism of a Mahon Rolling Steel Fire Door. Fusible Links Release the Mechanism in case of Fire and the Door closes Automatically.



Mahon Release Device for Chain-Gear Operator on Mahon Chain Operated Rolling Steel Fire Doors. Fusing of the Fusible Link, which Releases the Automatic Closing Mechanism, Simultaneously Disengages the Chain Gear Operator in Case of Fire. This Type of Mahon Automatic, Underwriters' Labeled Rolling Steel Fire Door may be Operated Mechanically in General Service by means of the Chain-Gear Operator.

At Right: Mahon Underwriters' Labeled Rolling Steel Fire Door, 24 x 15 ft., in a Fire Wall of the New Greyhound Service Garage Building, Detroit, Michigan. Harley, Ellington & Day, Architects.

ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

MAHON

By building freight cars lighter with U·S·S COR-TEN...

You can save steel now and

● With U·S·S Cor-Ten—*the steel that does more*—freight equipment can readily be built 22% lighter. This 22% average saving in steel makes it possible to get 28% *more* units from every ton of steel used.

Last year, when more than 19,000 Cor-Ten cars were ordered, the steel saved by Cor-Ten construction meant a bonus production of 3000 to 4000 more cars than could have been built from an equal tonnage of carbon steel.

This year an estimated 100,000 new freight cars will go into service, yet, believe it or not, about 75% of them will still be of conventional heavy construction. These out-moded cars, which average 2 tons heavier than need be, will not only permanently drag around a cost-increasing load of useless dead weight, but will require at least 150,000 extra tons of badly needed steel to produce them.

With steel still in desperately short supply, there are cogent reasons why railroads and car builders should save steel wherever possible—and it can be done by building freight equipment lighter with U·S·S Cor-Ten.

COR-TEN construction does more than save steel

The weight saved in Cor-Ten freight cars is directly reflected in other savings that continue for the life of the equipment.

Because they are lighter, Cor-Ten cars reduce operating costs by requiring less fuel and less motive power to move them. Because they haul added payload in place of dead weight, they save in the number of cars required to haul a given amount of freight. And because U·S·S Cor-Ten has 4 to 6 times greater resistance to atmospheric corrosion than plain steel, and is stronger, tougher and more resistant to impact, these lighter Cor-Ten cars stand up better—and you save on maintenance and repairs as well.

Consider these facts

By reducing weight with Cor-Ten you save steel and you get *more* cars from the steel available. And you get *better* cars—cars that are more profitable to operate, not only when new but throughout their longer life.

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES: CLEVELAND, OHIO
CARNEGIE-ILLINOIS STEEL CORPORATION, PITTSBURGH & CHICAGO
COLUMBIA STEEL COMPANY, SAN FRANCISCO · NATIONAL TUBE COMPANY, PITTSBURGH
TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

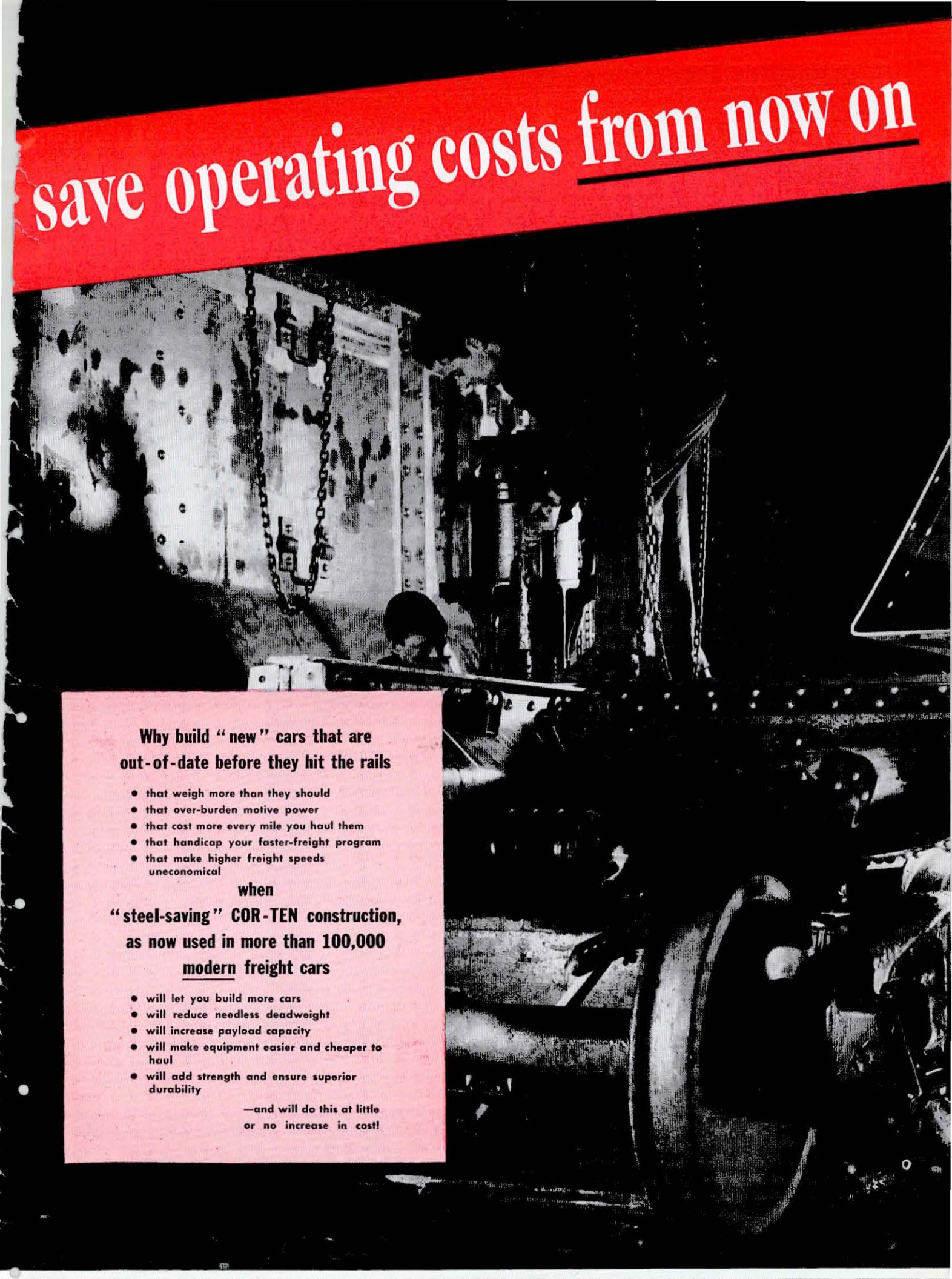
8–1108

U·S·S HIGH STRENGTH STEELS

U·S·S COR-TEN · U·S·S MAN-TEN · U·S·S ABRASION-RESISTING · U·S·S MANGANESE-NICKLE-COPPER

UNITED STATES STEEL

save operating costs from now on



Why build "new" cars that are out-of-date before they hit the rails

- that weigh more than they should
- that over-burden motive power
- that cost more every mile you haul them
- that handicap your faster-freight program
- that make higher freight speeds uneconomical

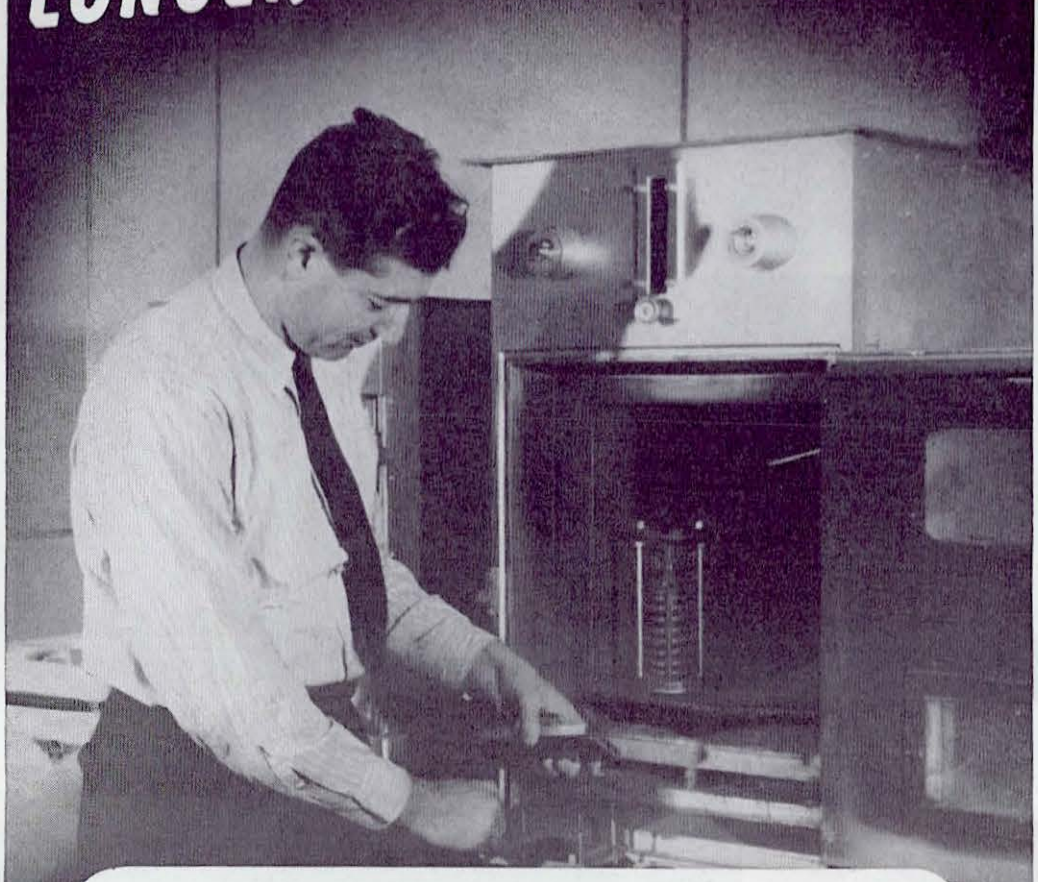
when "steel-saving" COR-TEN construction, as now used in more than 100,000 modern freight cars

- will let you build more cars
- will reduce needless deadweight
- will increase payload capacity
- will make equipment easier and cheaper to haul
- will add strength and ensure superior durability

—and will do this at little or no increase in cost!

UNITED STATES STEEL

OVEN TEST COOKS UP LONGER LASTING PRODUCTS



QUAKER PRE-TESTED PRODUCTS FOR THE RAILROADS ARE PERFORMANCE-PROVED THROUGHOUT THE NATION

It may be called the "Oven Test," but to the buyer of Quaker Rubber Products it means producing rubber with the ability to withstand heavy static loads.

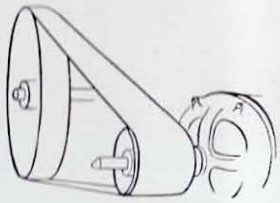
In making Quaker Rubber Hose it results in compounds of controlled specifications that will hold couplings over long periods of time . . . prevent hose from relaxing and allowing couplings to loosen. In packings, this pre-testing assures finished products that will hold their shape, will not relax, readily withstand pressures without the danger of blowouts.

This is only one of eighteen rigid tests that raw materials and finished products *must* pass before receiving the Quaker stamp of approval. Pre-testing provides quality and long service . . . assures worthwhile dividends for you through higher plant efficiency, lower operating costs. Call in your nearest Quaker distributor for hose, belting and packings.

QUAKER RUBBER CORPORATION

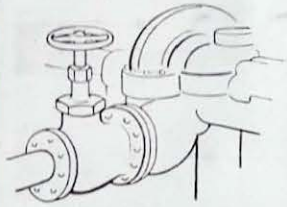
PHILADELPHIA 24, PA. • New York 7 • Cleveland 15 • Chicago 16 • Houston 1
Western Territory
QUAKER PACIFIC RUBBER CO. • San Francisco 10 • Los Angeles 21 • Seattle 4

WHAT QUAKER Pre-Tested Products mean to Railroads



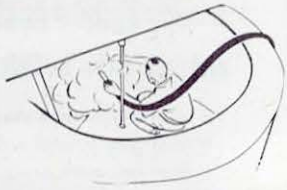
STEADY GRIP . . . LESS SLIP

Quaker V-belts and flat belting are pre-tested to provide plenty of grip, plenty of pull for more power. Pre-tested rubber stays flexible, withstands aging and abrasion.



TIGHT-SEALING OPERATION

Quaker pre-tested packings for all purposes keep pressure in . . . stop leaks on valve stems, piston rods, flanges. Made of pre-tested materials for long life.



LONG SERVICE AT HIGH PRESSURE

Quaker hose provides low-cost handling of steam, air, liquids, volatiles. Pre-tested rubber remains pliable, flexes easily, combats breakdown.

ENGINEERING SERVICE

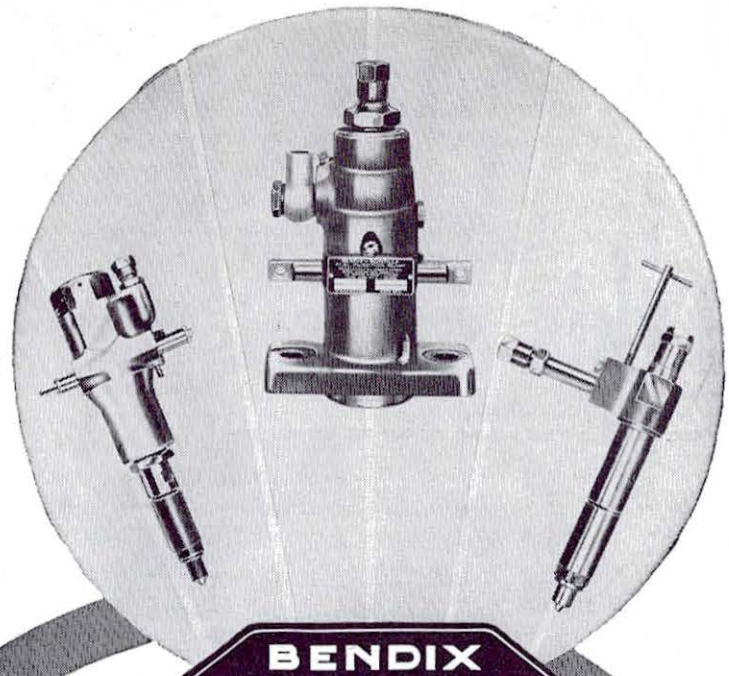
When belting, hose, and packing problems bog down efficiency in your plant, call your Quaker Distributor for a quick solution.

QUAKER RUBBER CORPORATION · PHILADELPHIA, PA. · QUALITY SINCE 1885

REG. U. S. PAT. OFF.

QUAKER RUBBER PRODUCTS

custom made for every industrial use



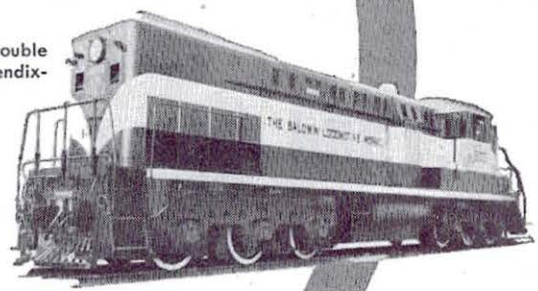
BENDIX SCINTILLA

The superiority of Bendix-Scintilla* Fuel Injection Equipment is indicated by its choice for many Diesel-electric locomotives of latest design.

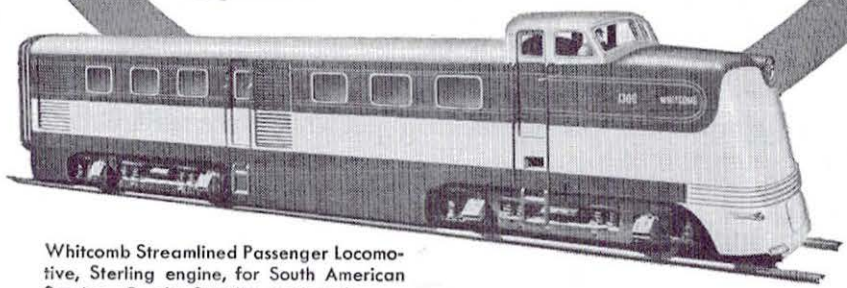
*TRADEMARK

Baldwin 3,000 H.P. Road Locomotive—Bendix-Scintilla equipped.

Baldwin 1,500 H.P. Double Duty Locomotive—Bendix-Scintilla equipped.



Cooper-Bessemer powered Diesel-electric Locomotive—Bendix-Scintilla equipped.

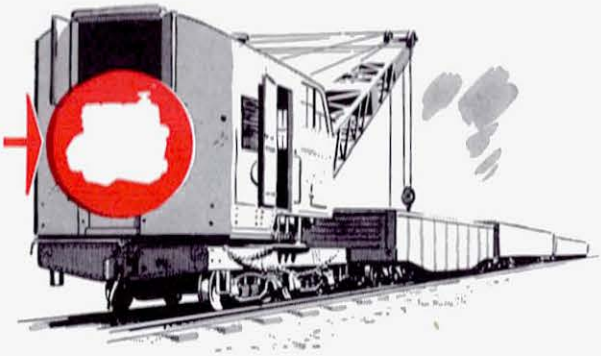


Whitcomb Streamlined Passenger Locomotive, Sterling engine, for South American Service—Bendix-Scintilla equipped.

SCINTILLA MAGNETO DIVISION of
SIDNEY, NEW YORK

Bendix AVIATION CORPORATION

Watch this space



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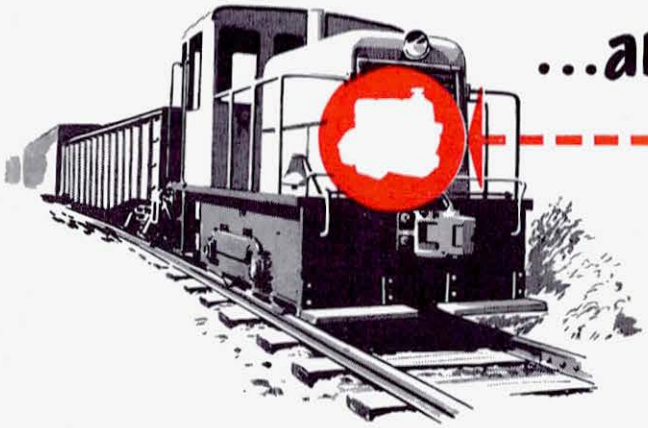

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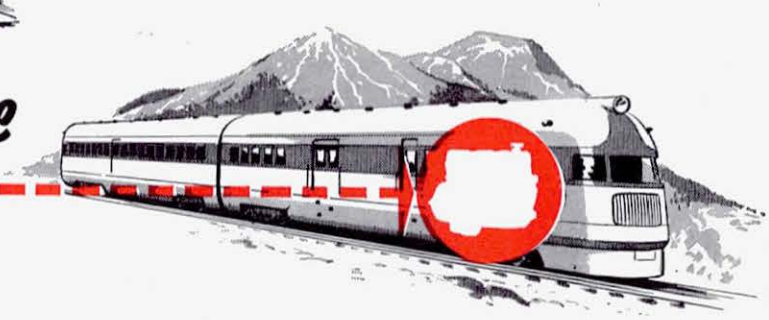


CUMMINS *Dependable* DIESEL

SINCE 1918...PIONEER OF PROFITABLE POWER THROUGH HIGH SPEED DIESELS

...for a new Cummins Diesel, built with the rugged simplicity of the famous "Model H" and designed to surpass its 15-year reputation for profit-making performance and economy.

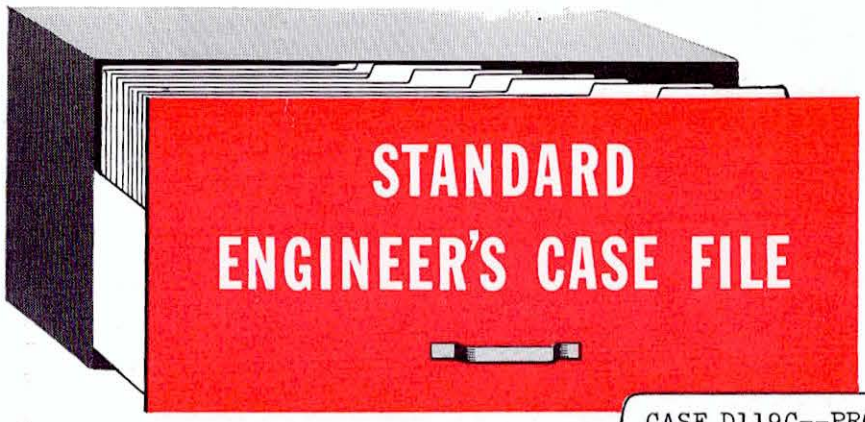
This is the *space to watch* next month.

Cummins Engine Company, Inc., Columbus, Indiana.

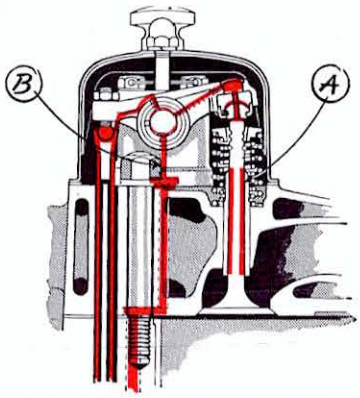
CUMMINS DIESEL RAILROAD EQUIPMENT COMPANY, INC.

1111 Grinnell Place, New York 59, New York, Tel. Dayton 3-6077

Cable Address: MOTORTRAIN



CASE D119C--PROVIDING GOOD VALVE ACTION IN DIESEL ENGINES.



DIESEL ENGINE VALVE ASSEMBLY

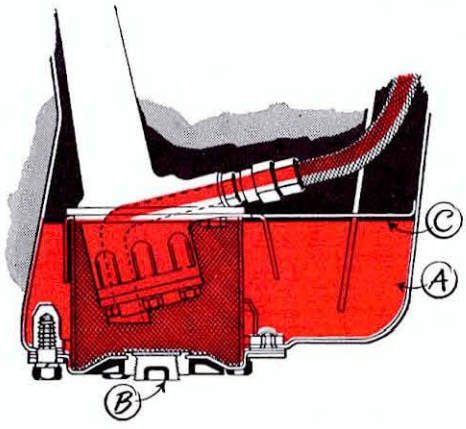
When Diesel engines, operating in tough heavy-duty service, were lubricated with compounded RPM DELO Diesel Engine Lubricating Oil, valve stems and guides did not gum up. They received thorough lubrication at all times and wear was negligible. RPM DELO Oil is recommended for all types of Diesels. Comes in several viscosity grades to meet all conditions.

A. Specially selected oxidation-resistant base stocks and special compounds prevent formation of gum and lacquer . . . oil film adheres to hot or cold metal surfaces.

B. Detergent compound keeps oil passages clean and open . . . and allows free flow of adequate supply of lubricant to wear points.

RPM DELO Diesel Engine Lubricating Oil is non-corrosive to all bearing metals. This quality and high stability assure sound bearings in Diesels for long service periods.

CASE D119D--KEEPING PARTS CLEAN AND REMOVING CONTAMINANTS FROM DIESEL ENGINES.



DIESEL ENGINE CRANKCASE

Cylinder walls, pistons, bearings and other parts of Diesel engines in heavy-duty service remained free of lacquer, and all contaminants flowed out with drainings when RPM DELO Diesel Engine Lubricating Oil was used.

A. A special compound in RPM DELO Oil loosens and removes lacquer and other deposits from parts and oil passages . . . and they stay harmlessly dispersed in the oil.

B. The finely dispersed contaminants, including condensate and dust, flow out freely when crankcases are drained.

C. Another compound in RPM DELO Oil prevents foaming —allows accurate measurement of oil levels and delivery of sufficient lubricant by oil pumps.

The engine-cleaning qualities of RPM DELO Oil help reduce wear on parts and prolong greatly the operating periods between engine overhauls.

For additional information and the name of your nearest Distributor, write

STANDARD OIL COMPANY OF CALIFORNIA

225 Bush Street, San Francisco 20, California

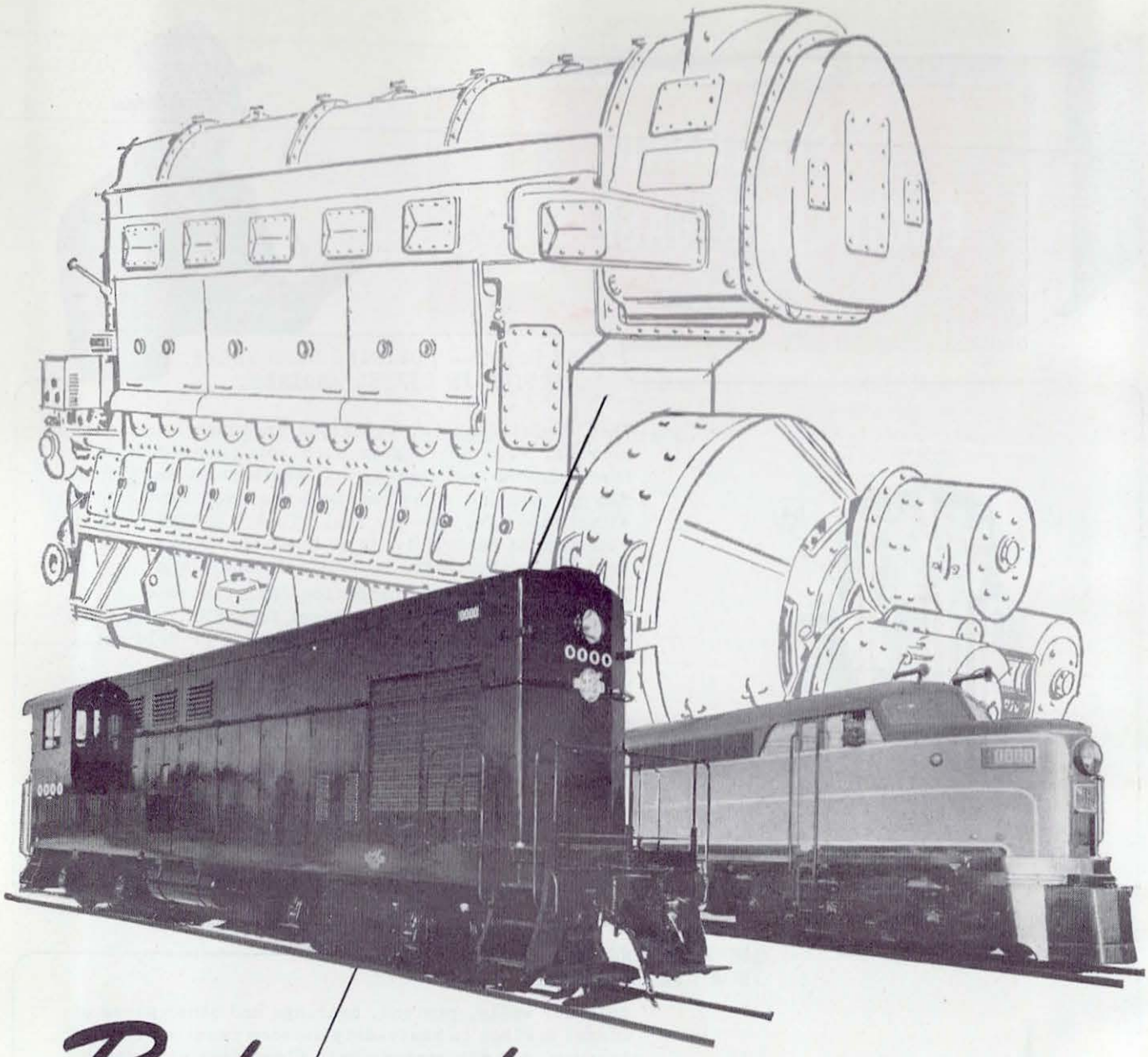
The California Oil Company
Barber, New Jersey

The California Company
17th and Stout Streets, Denver 1, Colo.

Standard Oil Company of Texas
El Paso, Texas

DIESEL ENGINE RPM DELO LUBRICATING OIL

Trademarks Reg. U. S. Pat. Office



Background FOR A FUTURE . . .

The widening preference for Fairbanks-Morse locomotives for road and yard is backgrounded by performance records of the Opposed-Piston Engine.

. . . Outstanding performance is a thoroughly proved characteristic of the O-P engine — the diesel that has 40% fewer working parts, requires less floor space, produces more power from *two* pistons in each cylinder.

Only Fairbanks-Morse has the Opposed-Piston Engine.

When it comes to locomotives...

FAIRBANKS-MORSE

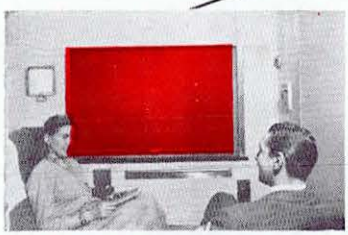
A name worth remembering

DIESEL LOCOMOTIVES • DIESEL ENGINES
STOKERS • SCALES • MOTORS • GENERATORS
PUMPS • FARM EQUIPMENT • MAGNETOS
RAILROAD MOTOR CARS and STANDPIPES

on the country's leading railroads
in the newest, finest cars

Pantasote Car Curtains

the standard for over 50 years—now better than ever



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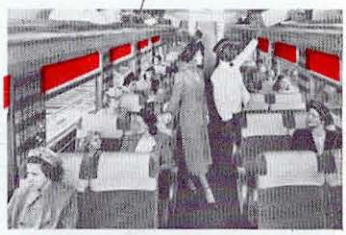

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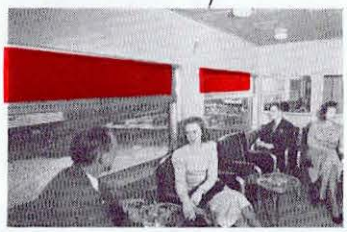

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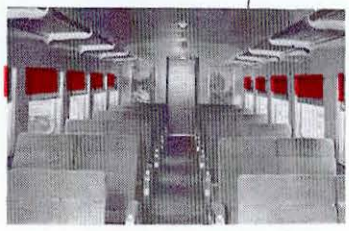

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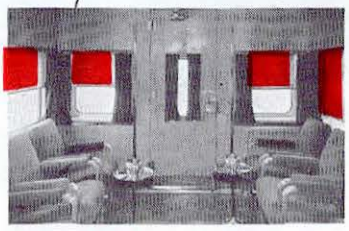

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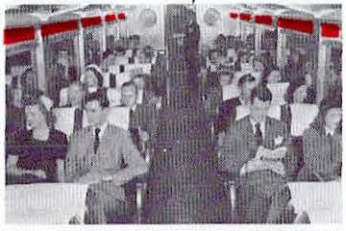

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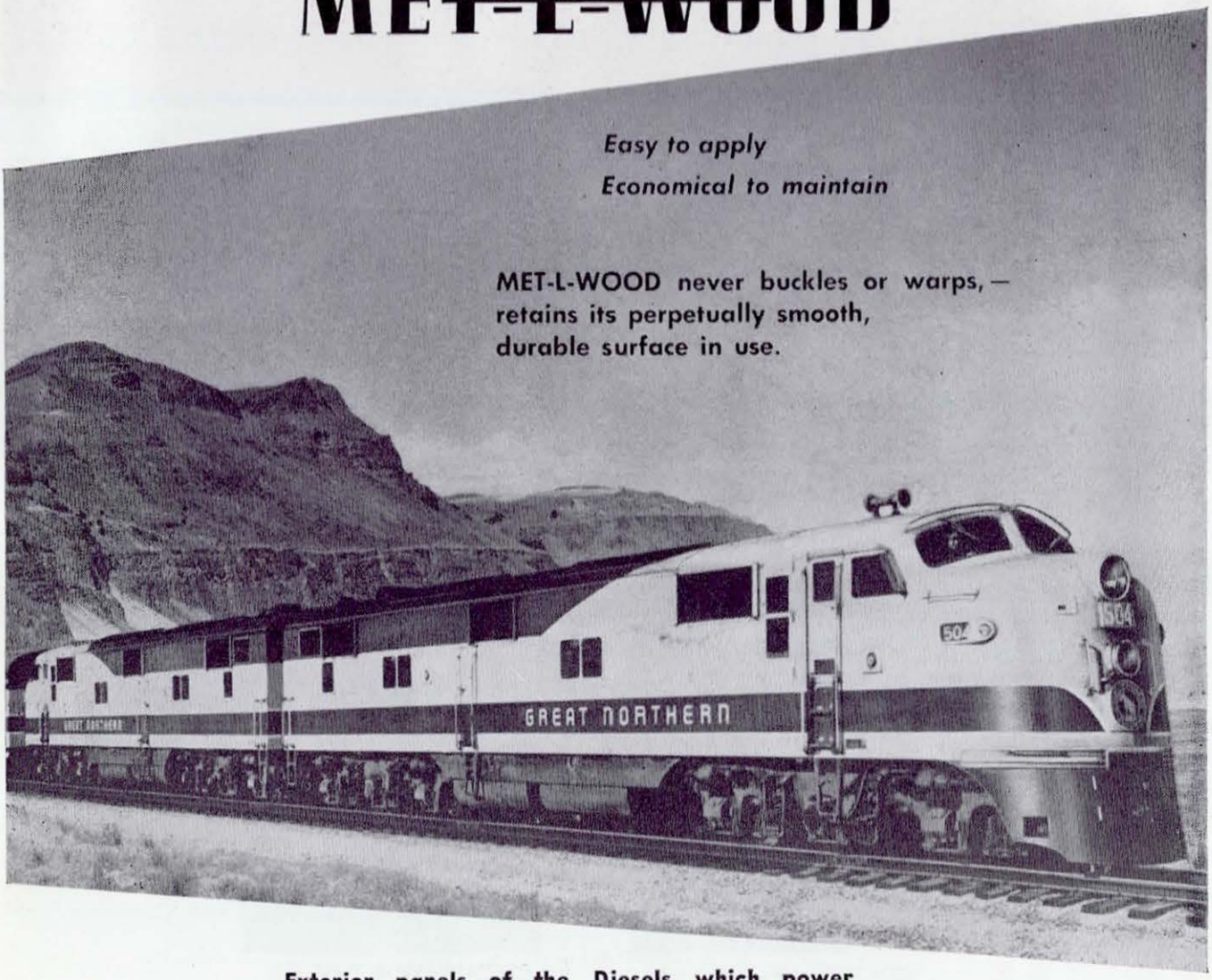

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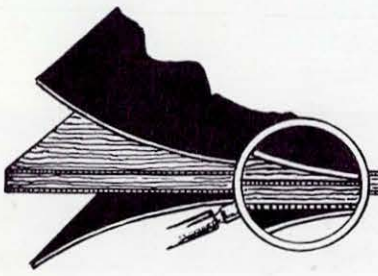

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The men at A. O. Smith know their steel and how to work it. Following our design, they know, too, how to make steel into draft gears that are lighter in weight and stronger, pound for pound, than any draft gears ever before offered to American Railroads.

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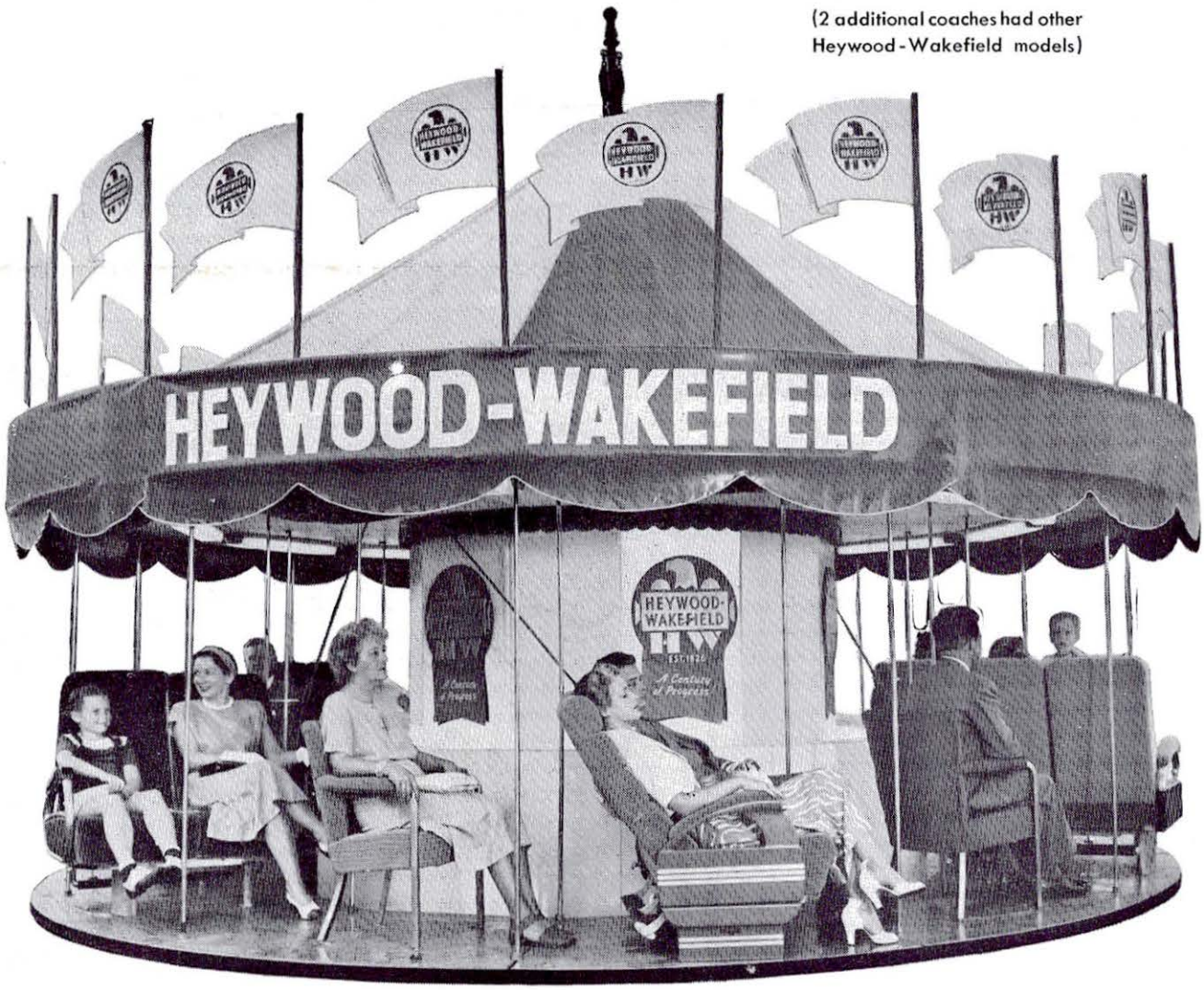
(2 additional coaches had other Heywood-Wakefield models)



FULL ROUND OF COMFORT *Heywood-Wakefield seating on this merry-go-round ran up an impressive total of comfortable "passenger-miles."*

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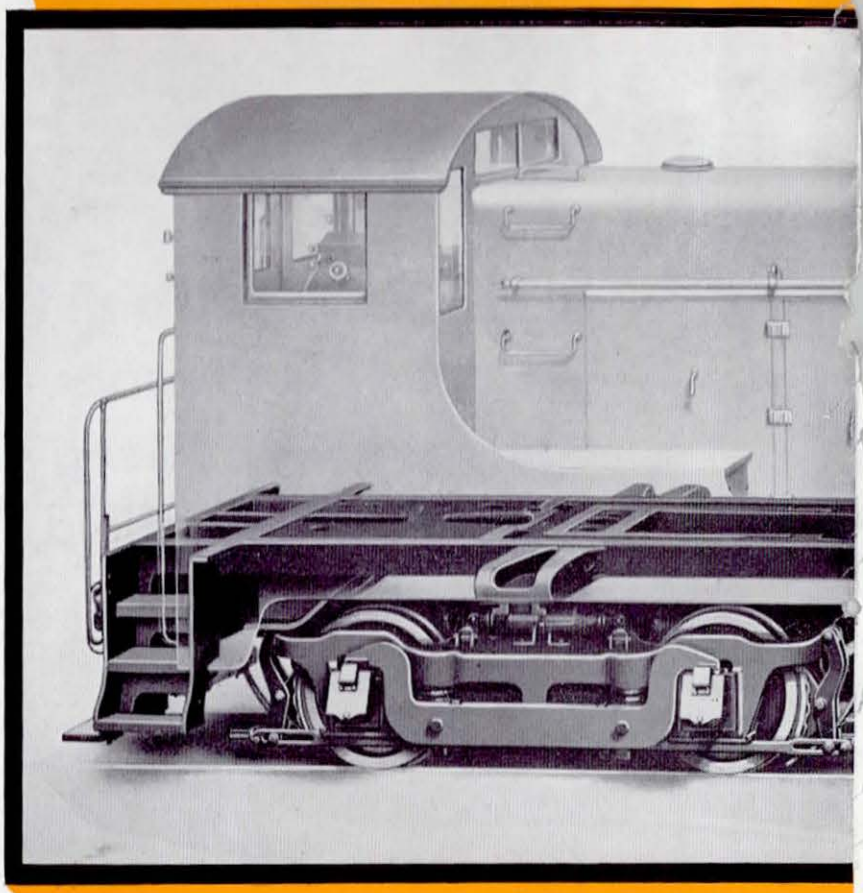

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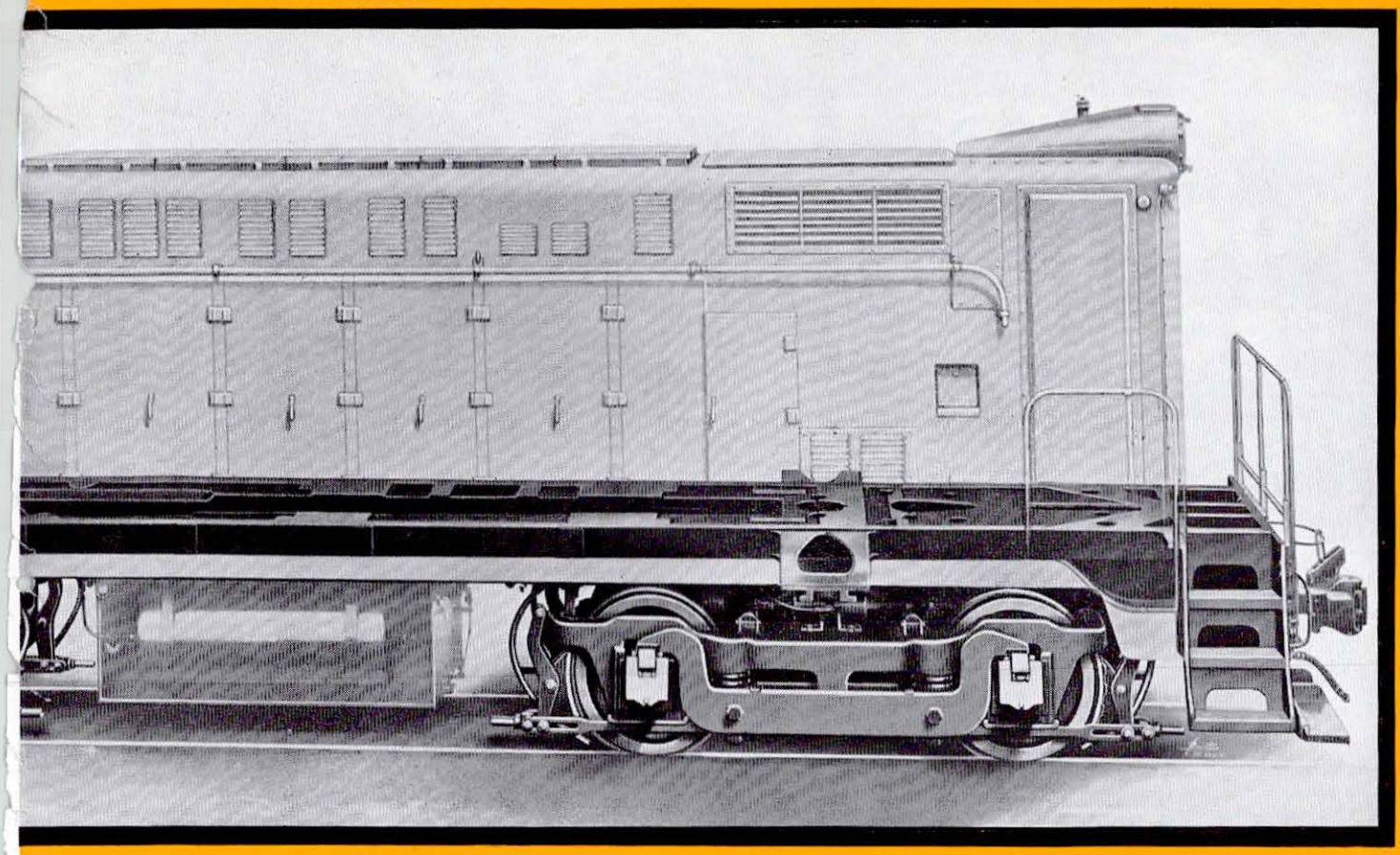

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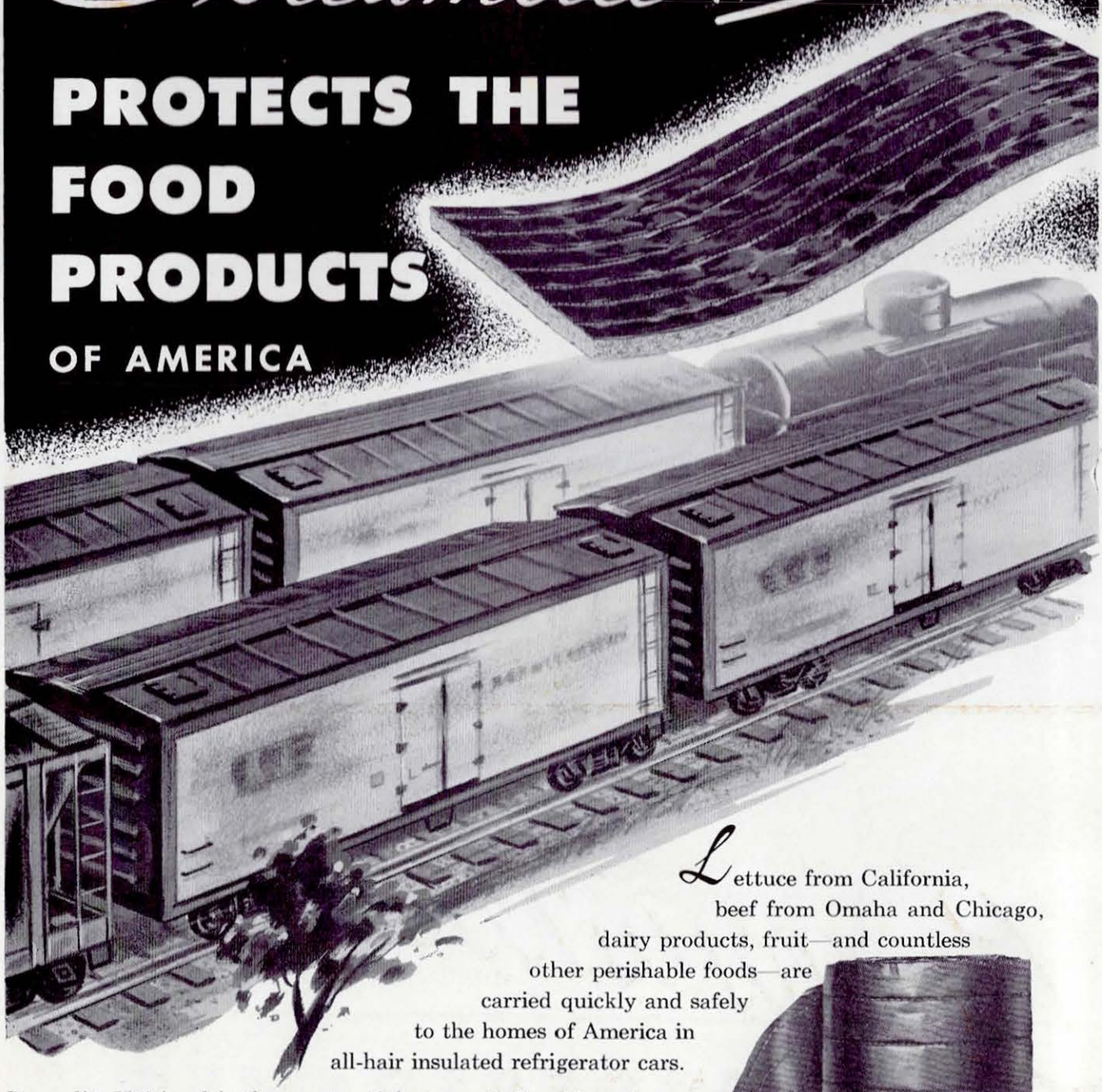

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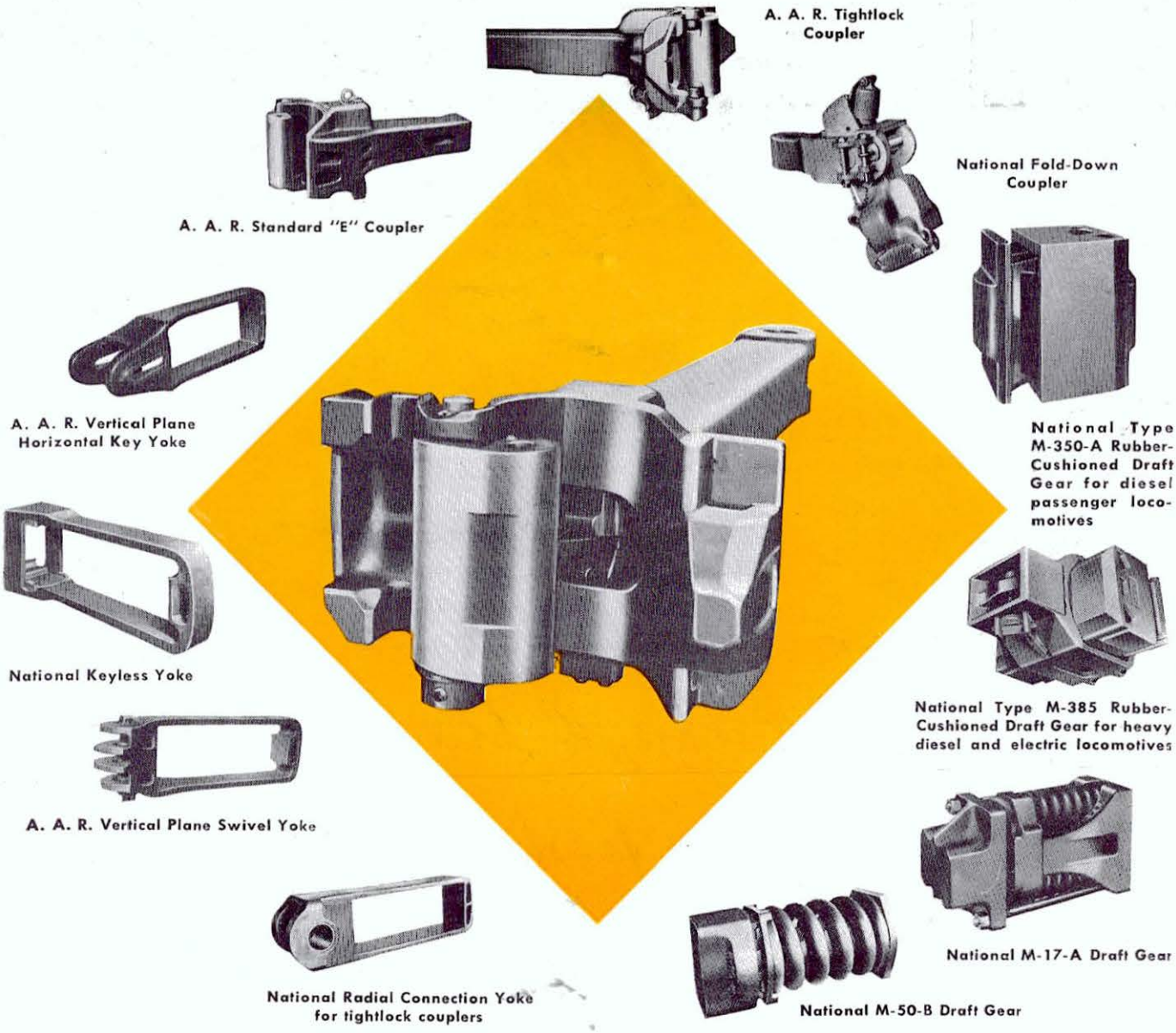
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84 Miles

10,000 "Package" box cars the first year

The *first* PS-1 box car rolled off the Pullman-Standard production lines on June 25, 1947 . . . a milestone in freight car building.

The *10,000th* PS-1 was completed on June 24, 1948—one day less than a year later . . . 10,000 standardized cars, built by assembly-line methods, to serve the railroads better.

If these cars were coupled together to form a train, its head-end would be in Milwaukee while its caboose was in Chicago. It could carry half a million tons of freight in one load.

Since it was introduced, the PS-1 has accounted for some 40% of all box cars ordered from contract builders; over 28% of those ordered from all sources combined. That's evidence of the soundness of the PS-1 idea—a result of giving the railroads more for their money.

Today, PS-1's are coming *faster than ever.* During the second quarter of 1948, average monthly production on these cars ran well over 1,400. Look to Pullman-Standard also for superior values on *all types* of freight cars.

# of PS-1's

CAPACITY: 500,000 TONS

ROAD CALL

These 13 railroads got the *first* 10,000 PS-1 box cars, between June 25, 1947 and June 24, 1948:

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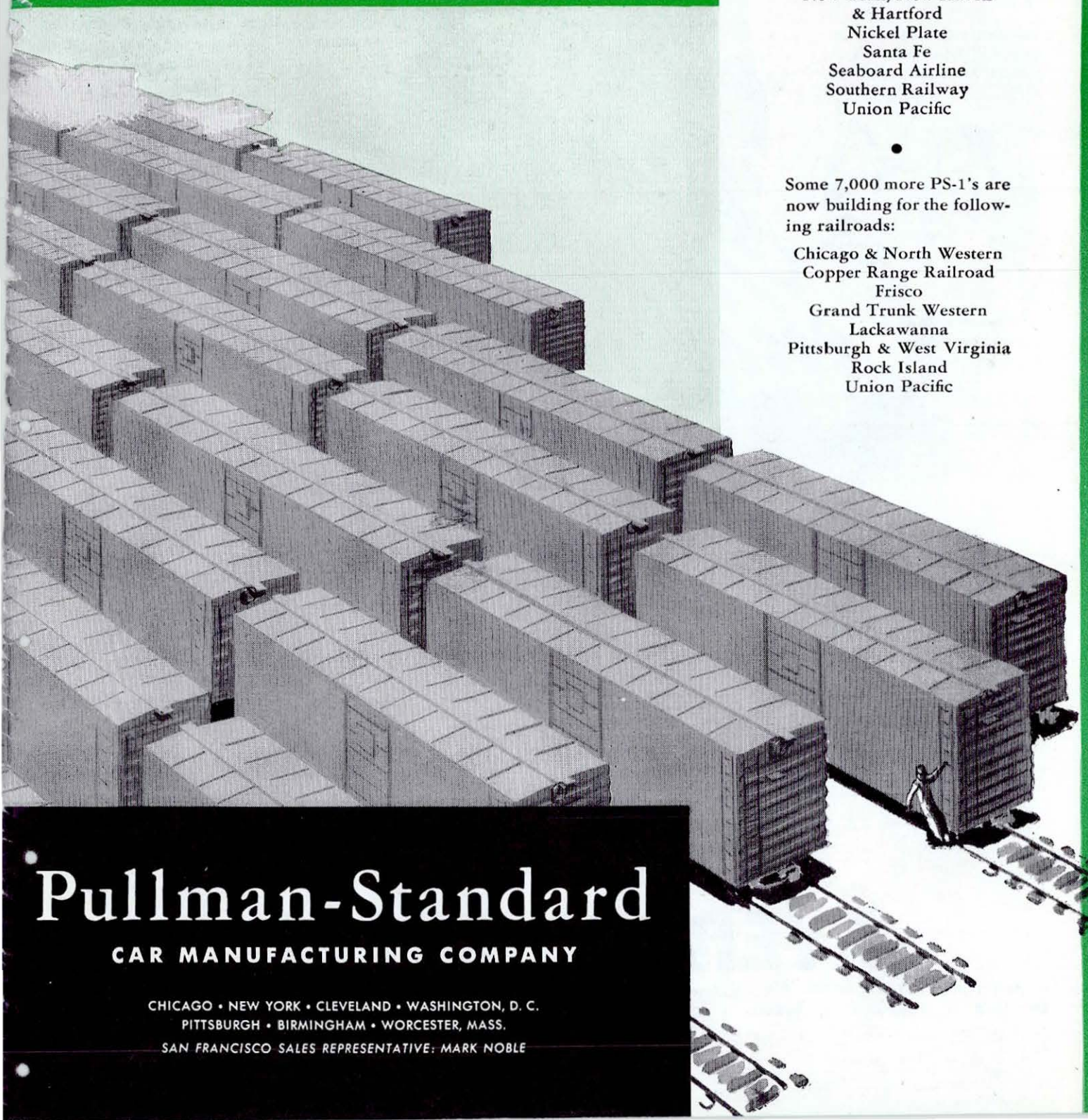
Chesapeake & Ohio
Chicago Great Western
Kansas City Southern
Lehigh Valley
Maine Central
New York Central
New York, New Haven & Hartford
Nickel Plate
Santa Fe
Seaboard Airline
Southern Railway
Union Pacific

•

Some 7,000 more PS-1's are now building for the following railroads:

Chicago & North Western
Copper Range Railroad
Frisco
Grand Trunk Western
Lackawanna
Pittsburgh & West Virginia
Rock Island
Union Pacific



Pullman-Standard

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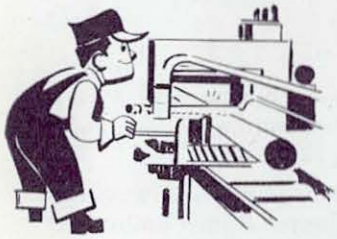
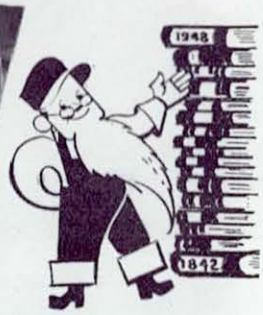
Prompt personal steel service on all orders, large or small, is a Ryerson tradition.



Accurate cutting to your order is assured by modern Ryerson equipment.



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You get quick delivery anywhere, because the network of Ryerson plants stretches from coast to coast.

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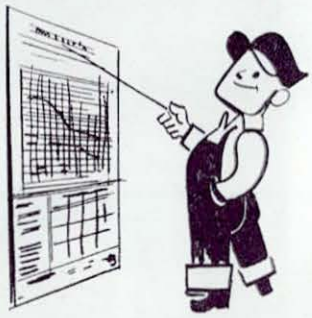
STRUCTURALS—channels, angles, I & H beams, etc.
PLATES—sheared & U. M., Inland 4-Way floor Plate, etc.
SHEETS—hot & cold rolled, many types & coatings
TUBING—seamless & welded, mechanical & boiler tubes
STAINLESS—Allegheny metal sheets, plates, bars, tubes, pipe, etc.
REINFORCING—bars & accessories, wire mesh, etc.
BABBITT—and phenolic laminated bearing material
MACHINERY & TOOLS—metal working & boiler shop



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Vol. 125, No 13 September 25, 1948

RAILWAY AGE

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WEEK AT A GLANCE

BUDGETS UP 49 PER CENT: Gross capital expenditures by the Class I roads in 1948, according to their own estimates, will exceed last year's actual outlays by 49 per cent, the Interstate Commerce Commission's statistics bureau reports. Such expenditures in the last half of this year are figured at about $700 million. The bureau's latest "Monthly Comment" is reviewed this week (page 56). Another analysis of the current situation of the railroads, particularly with respect to the equipment supply and the volume of business, is the monthly letter of Chairman Gass of the Association of American Railroads' Car Service Division, which is summarized in our news columns.

A MATTER OF IMPORTANCE: Certainly among the matters of top importance for railroad managements' consideration now and in the near future is the availability under all conceivable conditions of an ample supply of liquid fuels. Both within and without the petroleum industry grave doubts have been expressed whether the domestic supply of oil will be adequate for all essential needs if another war should break out, and, indeed, whether it will be sufficient even for the peacetime needs of the next generation. Foremost among the essential needs of the nation at war or the nation at peace is economical and efficient transportation—for which it has to depend primarily upon the railroads. If the sufficiency of the liquid fuel supply is in doubt, then the desirability of converting the railroads' motive power largely or entirely from coal-consuming to oil-consuming units is in doubt. This question has been reviewed in these pages previously, and this week it is further illuminated by an objective and thought-provoking article prepared by the General Motors staff (page 50), and by editorial observations related to that article.

ELECTRICAL MEN'S RESPONSIBILITY: Each year's meetings of the railroads' electrical officers, mechanical and engineering, produce fresh evidence of the increasing importance of electrical equipment in the operation of the railroads, not only in locomotives and on trains, but in applications all over the fixed properties too. In this month's conventions in Chicago — the subject of a report on page 53 in this issue — the significance of this development was put into figures by Chairman Gordon of the engineering division section, who pointed out that the horsepower of Diesel-electric locomotives alone (in service or on order) amounts to one-sixth of the total installed generating capacity of publicly and privately owned power stations.

TIME TO HOLLER: A soldier on sentry duty betrays his trust if, when attacked by the enemy, he tries single-handed to hold his post but fails to warn his comrades of the danger. The railroad industry today is in the uncomfortable position of being on sentry duty for the whole system of free private enterprise — and it is under sharp and unrelenting attack by proponents of socialized transportation and discriminatory political policies. Our leading editorial urges railroad men to let their friends in private enterprise know the danger that besets them all.

SIGNAL ECONOMICS: New signaling practices and installation of modern signaling to save train time and reduce operating expenses were among the more important subjects discussed at the annual meeting of the Association of American Railroads' Signal Section, held last week at Buffalo, N. Y. Chairman J. A. Beoddy, telegraph and signal superintendent of the Norfolk & Western; P. M. Shoemaker, operating vice-president of the Delaware, Lackawanna & Western, and J. H. Aydelott, vice-president of the A.A.R., were among the principal speakers, whose remarks are reported in the article beginning on page 40.

GET THE OBSOLESCENCE OUT: "There never was a time when (railroad) managements were more anxious . . . to improve their plants. All they need is capital . . . to get the obsolescence out." So said John W. Barriger, president of the Chicago, Indianapolis & Louisville, in his address to the annual meeting of the Treasury Division of the Association of American Railroads last week. And, Mr. Barriger emphasized, the treasury officers themselves must play a large part in procuring that necessary capital. Robert S. Henry, vice-president of the A.A.R., struck a very similar note in his address, reported on page 37.

TREATED TIES AND TRACK CIRCUITS: Experimental and actual installations on the Chesapeake & Ohio have shown that fire retardant treatment of bridge materials will not have a serious effect on the electrical systems of track circuits. Track and signal engineers who may have been concerned about such effects will be especially interested in the article beginning on page 34, in which H. M. Church, consulting engineer of Richmond, Va., describes the C. & O. tests.

THE HUMAN ELEMENT: Addresses, discussions and reports emphasizing the importance of the human element in passenger sales and service highlighted the 85th annual session of the American Association of Passenger Traffic Officers at Estes Park, Col., September 14-16. An account of the convention, with summaries of the various addresses and committee reports, begins on page 46.

CONSTANT IMPROVEMENT: Alert attention "to the necessity for constant improvement" in safety matters was cited as the major reason for the notable safety record achieved by American railroads in 1947 by Revelle W. Brown, president of the Reading, at the annual Harriman Awards dinner in New York on September 15. Our report of the ceremony begins on page 43.

ing reasonably adequate railroad service for the heavy load of the recent war, despite a decade of starvation in new capital for plant additions and improvements. To assume that such a feat could be duplicated after another protracted period of capital starvation like that of the 1930's would constitute the offense of "tempting Providence."

Since development of other means of transportation has deprived the railroads of none of their technological preeminence—especially in freight movement—there is nothing whatever except political discrimination which *could* make investors less willing to entrust their funds to the railroads than to other industry. The political discrimination against the railroads—obvious to any close observer—consists of (1) competition, to which no other industry is subjected, from plant in socialized ownership; and (2) political treatment (formal regulation as well as other political action, e.g., harassment by the Justice Department) which seriously reduces earnings or increases expenses.

It would not be too difficult an assignment for people who know the transportation business to set down in specific terms the changes which would be required in the method of public financing of highways, waterways and airways to remove the comparative unattractiveness of parallel investments of *private* funds in railroad facilities. It would not be too hard, either, to list the major ways in which the political straightjacket on the railroad industry might be loosened to establish a reasonable degree of freedom, so that the industry might not compare so unfavorably as it does now with other places where the investor is invited to risk his savings.

These things can be told—not in terms of the railroads' dislike of what is going on, but in terms of the public's interest in its own comfort and safety. It is, doubtless, a noble thing for a soldier, when beset by the socialist enemy, to do his damnedest to go down fighting, without letting his fellows know he has been attacked. But such stoic behavior is not going to be much help in winning the war. The man who yells "Fire," when there is a fire, is not a nuisance and a bore; he is a public benefactor, and will eventually be so acclaimed.

NEEDED— FEWER BETTER TIES, NOT MORE INFERIOR TIES

The day of a serious shortage of quality crossties in this country — foreseen by a number of railroad maintenance men as early as the turn of the century — has not yet arrived; but it has been creeping up over the years, and is definitely ahead unless something further is done to forestall it. Likewise, tie costs have been increasing, and are certain to increase still further, not only for good ties, but for inferior ties, unless something is done about it. At the same time, mechanical destruction is taking a greater toll of tie life today than ever before.

No one would contend — much as present crossties look like earlier ties — that nothing has been done to prolong their service life. Better production methods, more scientific stacking and seasoning, improved preservatives and methods of treating, and means of controlling splitting and checking have gone far towards doubling or tripling the service life of ties. As a result, whereas the railroads were installing an annual average of about 83 million ties per year between 1921 and 1930, this number has been reduced steadily to the point where the annual average was 47 million between 1941 and 1947, and was only about 40 million in the last two years of this period.

Congratulations are deserved both by the producers and the railroads for this achievement. But as J. B. Akers, chief engineer of the Southern, voicing the concern of other top engineering officers, told the Railway Tie Association at its recent convention at White Sulphur Springs, W. Va. (reported in *Railway Age* of September 11), what has been done has *not been enough*. Urging that the tie producers take a larger part in improving the physical characteristics of ties, he said, "These things are receiving some attention, but we need to find the answers quickly and start reaping the benefits."

In the face of such a plea for better ties, and with every reason to believe that interest and ingenuity on the part of railroad men and producers can find the answers to some of today's tie problems, suggestions are being put forward by at least some tie producers for modifications of the American Railway Engineering Association's specifications for crossties, which have long been uniformly accepted by the railroads. These producers cite changed conditions in the tie industry which are making it increasingly difficult to produce ties of top specification, and a tendency on the part of both some railroads and some producers toward undesirable purchasing practices under the present specifications.

The changed conditions in the tie industry include a scarcity of labor, increased wages, timber shortages, and keener competition for lumber. Among questionable purchasing practices, the most common is the up-grading of ties to a higher standard than they merit. This permits the producer, on the one hand, to market ties which "shade" the mark, and allows the railroad, on the other hand, to secure ties which it might not otherwise be able to get in a short market.

Another equally questionable practice, at least

WEEK AT A GLANCE

BUDGETS UP 49 PER CENT: Gross capital expenditures by the Class I roads in 1948, according to their own estimates, will exceed last year's actual outlays by 49 per cent, the Interstate Commerce Commission's statistics bureau reports. Such expenditures in the last half of this year are figured at about $700 million. The bureau's latest "Monthly Comment" is reviewed this week (page 56). Another analysis of the current situation of the railroads, particularly with respect to the equipment supply and the volume of business, is the monthly letter of Chairman Gass of the Association of American Railroads' Car Service Division, which is summarized in our news columns.

A MATTER OF IMPORTANCE: Certainly among the matters of top importance for railroad managements' consideration now and in the near future is the availability under all conceivable conditions of an ample supply of liquid fuels. Both within and without the petroleum industry grave doubts have been expressed whether the domestic supply of oil will be adequate for all essential needs if another war should break out, and, indeed, whether it will be sufficient even for the peacetime needs of the next generation. Foremost among the essential needs of the nation at war or the nation at peace is economical and efficient transportation—for which it has to depend primarily upon the railroads. If the sufficiency of the liquid fuel supply is in doubt, then the desirability of converting the railroads' motive power largely or entirely from coal-consuming to oil-consuming units is in doubt. This question has been reviewed in these pages previously, and this week it is further illuminated by an objective and thought-provoking article prepared by the General Motors staff (page 50), and by editorial observations related to that article.

ELECTRICAL MEN'S RESPONSIBILITY: Each year's meetings of the railroads' electrical officers, mechanical and engineering, produce fresh evidence of the increasing importance of electrical equipment in the operation of the railroads, not only in locomotives and on trains, but in applications all over the fixed properties too. In this month's conventions in Chicago — the subject of a report on page 53 in this issue — the significance of this development was put into figures by Chairman Gordon of the engineering division section, who pointed out that the horsepower of Diesel-electric locomotives alone (in service or on order) amounts to one-sixth of the total installed generating capacity of publicly and privately owned power stations.

TIME TO HOLLER: A soldier on sentry duty betrays his trust if, when attacked by the enemy, he tries single-handed to hold his post but fails to warn his comrades of the danger. The railroad industry today is in the uncomfortable position of being on sentry duty for the whole system of free private enterprise — and it is under sharp and unrelenting attack by proponents of socialized transportation and discriminatory political policies. Our leading editorial urges railroad men to let their friends in private enterprise know the danger that besets them all.

SIGNAL ECONOMICS: New signaling practices and installation of modern signaling to save train time and reduce operating expenses were among the more important subjects discussed at the annual meeting of the Association of American Railroads' Signal Section, held last week at Buffalo, N. Y. Chairman J. A. Beoddy, telegraph and signal superintendent of the Norfolk & Western; P. M. Shoemaker, operating vice-president of the Delaware, Lackawanna & Western, and J. H. Aydelott, vice-president of the A.A.R., were among the principal speakers, whose remarks are reported in the article beginning on page 40.

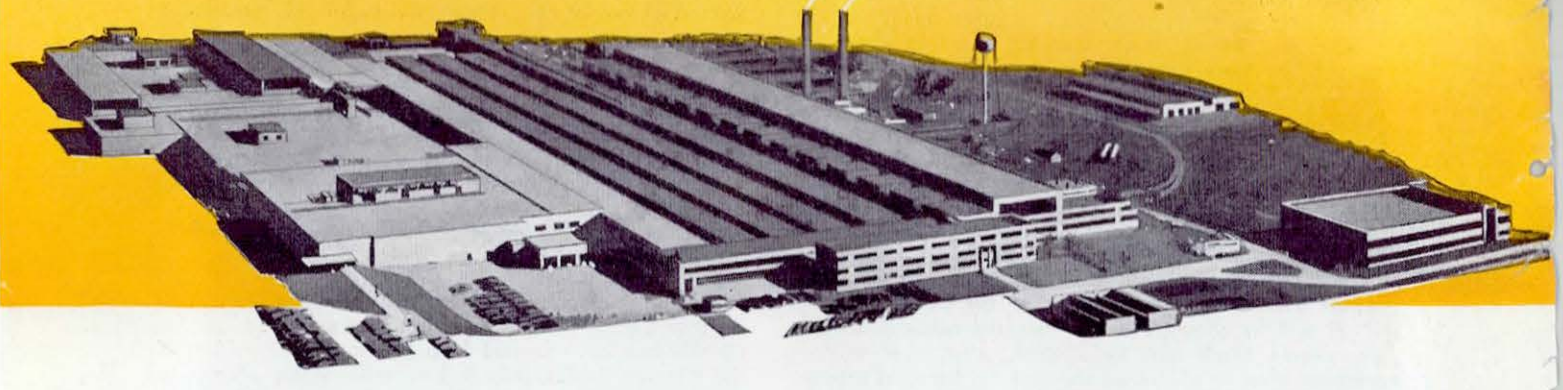
GET THE OBSOLESCENCE OUT: "There never was a time when (railroad) managements were more anxious . . . to improve their plants. All they need is capital . . . to get the obsolescence out." So said John W. Barriger, president of the Chicago, Indianapolis & Louisville, in his address to the annual meeting of the Treasury Division of the Association of American Railroads last week. And, Mr. Barriger emphasized, the treasury officers themselves must play a large part in procuring that necessary capital. Robert S. Henry, vice-president of the A.A.R., struck a very similar note in his address, reported on page 37.

TREATED TIES AND TRACK CIRCUITS: Experimental and actual installations on the Chesapeake & Ohio have shown that fire retardant treatment of bridge materials will not have a serious effect on the electrical systems of track circuits. Track and signal engineers who may have been concerned about such effects will be especially interested in the article beginning on page 34, in which H. M. Church, consulting engineer of Richmond, Va., describes the C. & O. tests.

THE HUMAN ELEMENT: Addresses, discussions and reports emphasizing the importance of the human element in passenger sales and service highlighted the 85th annual session of the American Association of Passenger Traffic Officers at Estes Park, Col., September 14-16. An account of the convention, with summaries of the various addresses and committee reports, begins on page 46.

CONSTANT IMPROVEMENT: Alert attention "to the necessity for constant improvement" in safety matters was cited as the major reason for the notable safety record achieved by American railroads in 1947 by Revelle W. Brown, president of the Reading, at the annual Harriman Awards dinner in New York on September 15. Our report of the ceremony begins on page 43.

PIONEER IN DIESEL PROGRESS



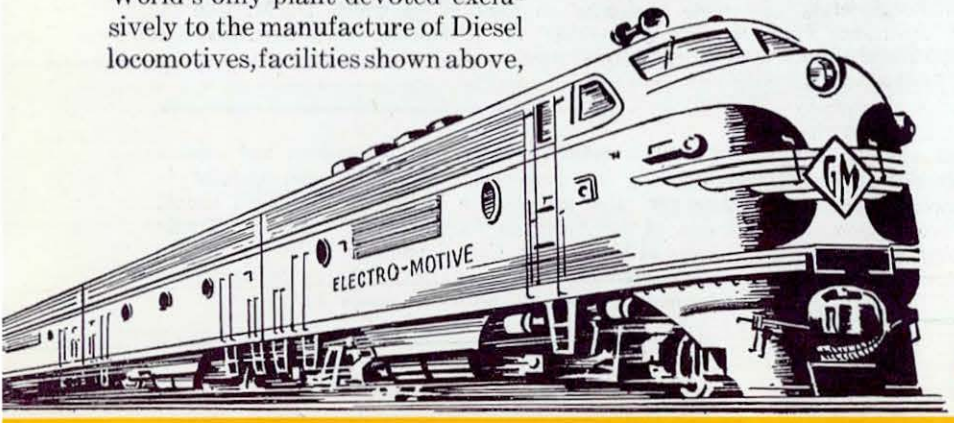
General Motors locomotives have been produced at the Electro-Motive plant since its completion in 1935.

Here General Motors pioneered the mass production of standardized locomotives and has built more than six million Diesel locomotive horsepower for railroad use.

World's only plant devoted exclusively to the manufacture of Diesel locomotives, facilities shown above, today covers more than 3,000,000 square feet and is still being expanded to meet the railroads' growing demand for this modern motive power. Each working day, an average of more than five complete General Motors Diesel locomotive units go to the railroads of America from the Electro-Motive Division.

General Motors locomotives in their entirety, including mechanical and electrical components, are designed and manufactured by a single organization.

Undivided manufacturing and service responsibility assures that every General Motors Diesel locomotive delivers that high quality of performance which makes them natural pace-setters in advanced locomotive design and performance.



GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS LA GRANGE, ILL.

Home of the Diesel Locomotive

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THE MORAL OBLIGATION TO HOLLER WHEN KICKED

The American people, unlike the citizens of most other nations, have entrusted to private enterprise the heavy responsibility of providing them with adequate and efficient transportation at all times. When conditions arise which frustrate the efforts of private enterprise to perform this function, then private enterprise's responsible spokesmen — i.e., railroad management—have a primary obligation to tell the people what is going on and how it affects their interests. A soldier on sentry duty betrays his trust if, when attacked by the enemy, he raises no outcry but attempts single-handed to beat off his assailants. And a warning is not a warning if it is not uttered loudly or intelligibly enough to wake up everyone who is in danger.

The public—and a good many railroad people and railroad patrons too—have plainly been deluded by the relative adequacy of railroad service during the recent war into the belief that the adverse political treatment of which the railroads have so often complained is merely an annoyance, not a genuine injury. Railroad men who know better seem reluctant to disturb this comforting delusion. Superficial observers of transportation developments apparently have concluded—since hundreds of millions of prewar appropriations for the extension of socialized transportation facilities (waterways, superhighways, airports) were insufficient to put the railroads out of business—that indefinite continuance and increase of such appropriations will not do any harm either. Because a donkey can carry 500 lb. for a day on a handful of oats, the somewhat hasty conclusion seems to have been reached that he can stagger on with 1,000 lb. or 2,000 lb., or more, for an indefinite distance, and with no oats at all.

However much the general public—and even professional transportation people—may be beguiled by appearances into the cheering conclusion that all is well, or reasonably so, with the railroad industry—*the suppliers of investment capital are not being fooled.* Railroad stocks have been selling below par—usually *far* below—since the early 1930's; and, also since the early 1930's, no "new money" from investors has come into the railroad industry, except for financing purchases of locomotives and cars.

Investors are willing to supply funds to provide rolling stock, where the capital outlay will be refunded to them in ten or fifteen years, and where they retain title to assets of a kind which can easily be "repossessed." They are not willing, and have not been willing for more than a decade and a half, to put their money into improvements in roadway and structures, where "repossession" is not possible and where, consequently, rapid repayment of investment cannot be enforced. Private enterprise in transportation worked a near-miracle in provid-

ing reasonably adequate railroad service for the heavy load of the recent war, despite a decade of starvation in new capital for plant additions and improvements. To assume that such a feat could be duplicated after another protracted period of capital starvation like that of the 1930's would constitute the offense of "tempting Providence."

Since development of other means of transportation has deprived the railroads of none of their technological preeminence—especially in freight movement—there is nothing whatever except political discrimination which *could* make investors less willing to entrust their funds to the railroads than to other industry. The political discrimination against the railroads—obvious to any close observer—consists of (1) competition, to which no other industry is subjected, from plant in socialized ownership; and (2) political treatment (formal regulation as well as other political action, e.g., harassment by the Justice Department) which seriously reduces earnings or increases expenses.

It would not be too difficult an assignment for people who know the transportation business to set down in specific terms the changes which would be required in the method of public financing of highways, waterways and airways to remove the comparative unattractiveness of parallel investments of *private* funds in railroad facilities. It would not be too hard, either, to list the major ways in which the political straightjacket on the railroad industry might be loosened to establish a reasonable degree of freedom, so that the industry might not compare so unfavorably as it does now with other places where the investor is invited to risk his savings.

These things can be told—not in terms of the railroads' dislike of what is going on, but in terms of the public's interest in its own comfort and safety. It is, doubtless, a noble thing for a soldier, when beset by the socialist enemy, to do his damnedest to go down fighting, without letting his fellows know he has been attacked. But such stoic behavior is not going to be much help in winning the war. The man who yells "Fire," when there is a fire, is not a nuisance and a bore; he is a public benefactor, and will eventually be so acclaimed.

NEEDED— FEWER BETTER TIES, NOT MORE INFERIOR TIES

The day of a serious shortage of quality crossties in this country — foreseen by a number of railroad maintenance men as early as the turn of the century — has not yet arrived; but it has been creeping up over the years, and is definitely ahead unless something further is done to forestall it. Likewise, tie costs have been increasing, and are certain to increase still further, not only for good ties, but for inferior ties, unless something is done about it. At the same time, mechanical destruction is taking a greater toll of tie life today than ever before.

No one would contend — much as present crossties look like earlier ties — that nothing has been done to prolong their service life. Better production methods, more scientific stacking and seasoning, improved preservatives and methods of treating, and means of controlling splitting and checking have gone far towards doubling or tripling the service life of ties. As a result, whereas the railroads were installing an annual average of about 83 million ties per year between 1921 and 1930, this number has been reduced steadily to the point where the annual average was 47 million between 1941 and 1947, and was only about 40 million in the last two years of this period.

Congratulations are deserved both by the producers and the railroads for this achievement. But as J. B. Akers, chief engineer of the Southern, voicing the concern of other top engineering officers, told the Railway Tie Association at its recent convention at White Sulphur Springs, W. Va. (reported in *Railway Age* of September 11), what has been done has *not been enough*. Urging that the tie producers take a larger part in improving the physical characteristics of ties, he said, "These things are receiving some attention, but we need to find the answers quickly and start reaping the benefits."

In the face of such a plea for better ties, and with every reason to believe that interest and ingenuity on the part of railroad men and producers can find the answers to some of today's tie problems, suggestions are being put forward by at least some tie producers for modifications of the American Railway Engineering Association's specifications for crossties, which have long been uniformly accepted by the railroads. These producers cite changed conditions in the tie industry which are making it increasingly difficult to produce ties of top specification, and a tendency on the part of both some railroads and some producers toward undesirable purchasing practices under the present specifications.

The changed conditions in the tie industry include a scarcity of labor, increased wages, timber shortages, and keener competition for lumber. Among questionable purchasing practices, the most common is the up-grading of ties to a higher standard than they merit. This permits the producer, on the one hand, to market ties which "shade" the mark, and allows the railroad, on the other hand, to secure ties which it might not otherwise be able to get in a short market.

Another equally questionable practice, at least

from the standpoint of the railroads in the long run, is overbuying in the smaller sizes in order to be allowed to obtain a disproportionate share of the available larger ties. Most railroads and producers frown on these practices, while the A.R.E.A., realizing the shortsightedness of accepting inferior ties for specific classes of service, continues to urge the closest adherence to its standards.

The answer to the tie problem cannot be found in acceptance by the railroads of more ties of lower specification. Rather, as Mr. Akers pointed out, it must be found in ties of adequate size and in improving the physical properties of these ties so they will be more resistant to mechanical destruction. What is needed is not *more* inferior ties, but *fewer* superior ties.

DIESEL FUEL

The question whether the supply of fuel for Diesel locomotives will remain adequate if the Diesel proportion of the motive-power inventory continues to increase has been a matter of concern to many railroad men and a subject of discussion among them for several years. In this issue appears a report prepared by the Electro-Motive and Research Laboratories Divisions of the General Motors Corporation which deals with the fuel needs of Diesel locomotives in relation to the supply of petroleum.

This report repeats the comparison, already current, that fewer barrels of petroleum products would be consumed by the railroads if all motive power were Diesel than are now burned in the fireboxes of oil-burning steam locomotives. It shows that the increase of Diesel fuel consumption by the railroads between 1941 and 1947 was 44,900 barrels a day; the increase by all other users of petroleum products was 986,000 barrels a day; the increase in gasoline consumption alone was nearly 375,000 barrels a day; the increase of distillate for home heaters was over 200,000 barrels a day.

Fuel Comparisons

This General Motors report sheds valuable new light on an important and complex problem of fundamental policy. It is not of course, held out as an exhaustive analysis, intended to answer all fuel questions for all time. Its fuel comparisons are based, presumably, on present Diesel and present steam performances. Railroad men who are making continuing studies of motive power policy will make allowance in current fuel comparisons for the fact that increasing Dieselization tends to lower the average fuel performance of Diesel locomotives; they will recognize that present performance figures of steam locomotives are lowered by the assignment of the most favorable runs to the Diesels now in service. Diesels are high in first cost and are assigned to the jobs which offer the greatest opportunities for high utilization. As more are introduced, the opportunities for maximum utilization tend to decline.

Another consideration of importance in evaluating motive power performance is the fact that by comparison with the best modern steam power, there is a large amount of obsolescence in the present steam-locomotive inventory. Replacement of obsolete steam locomotives with modern steam locomotives would provide a comparison with Diesel locomotives in which the thermal efficiency of the Diesel would not be five times that of the steam, but nearer four.

The most significant fact brought out in the General Motors report is the relatively small part that Diesel locomotives have played in the tremendous increase which has occurred in the consumption of petroleum products since 1941. The Diesel's proportion of the nation's total petroleum consumption is an insignificant factor in the present strain on the country's available petroleum resources. This tightness of supply is a serious problem, but increasing use of Diesels by the railroads has not given rise to the difficulty, nor would elimination of the Diesel locomotive make any tangible contribution toward its removal.

Engine Efficiency

The most hopeful indication in the report is the prospective increase in the thermal efficiency of automotive gasoline engines which gives promise of effecting savings in the consumption of gasoline as high as 40 per cent in a distant future and 20 per cent in a less distant future. Processes are available for the synthetic production of liquid fuels from gas, shale oil, and coal, but these processes are still out of reach economically.

Whether and at what rate the trend away from coal and toward the use of petroleum products as sources of energy will continue is dependent on relative price trends of the two types of fuel, particularly in industrial applications. To many householders and to automobile owners fuel selection is not determined by economical considerations. To the householder convenience weighs heavily; the automobile owner, himself, exercises no choice. This may add to the severity of the price competition facing industrial users, including the railroads. The industry is going to have this situation confronting it for a long time, and the more significant facts it can collect and the more vigorously and continuously it studies these facts, the better off it will be. The General Motors report adds materially to the supply of pertinent and useful information.

C. & O. TESTS EFFECT ON TRACK CIRCUITS OF BRIDGE TIES TREATED TO RESIST FIRE

By H. M. CHURCH
Consulting Engineer
Richmond, Va.

Track and signal engineers who may have been concerned with the possible adverse effect on track signal circuits of salt-treated ties on bridges will have their concern allayed considerably by the results of a series of tests conducted recently by the Chesapeake & Ohio to determine what, if any, effect such ties have on the reliability and efficiency of signal circuits. This question has become of special significance as the railroads have given more and more attention to the use of salt-treated timbers, for the protection of bridges against fires, which not only result in monetary loss but are serious handicaps to train operation.

Treated timber has long been recognized as one of the most economical construction materials for railroad bridges, and it has given excellent service in various types of bridge construction. Originally, the treatment for such timber was intended solely for protecting it against decay and insect attack, and this protection, as imparted by pressure treatment with creosote and creosote-coal tar solutions, has proved adequate and satisfactory. Since the beginning of the wood-preserving industry, however, there has developed an increasing demand for the protection of wood against fire, especially bridge fires, many of which start as a result of hot coals or heated particles of metal from brake shoes falling on the ties.

The Chesapeake & Ohio was emphasizing protection against fire, as well as decay and insect attack, when it modernized its bridge No. 25 near Cincinnati, Ohio. To combat fire hazard, pine bridge ties were installed which were pressure treated with 1 to 1½ lb. per cu. ft. of chromated zinc chloride. On approximately half of this bridge, 3-in. by 4-in. by 10-ft. filler blocks, also treated with chromated zinc chloride were installed between the ties. This made a solid deck of fire-retardant treated wood, which prevents any hot coals or particles of metal from falling through to the creosoted structure below. The section of the deck containing filler blocks was further protected by the application of Koppers Clear Non-Flammable sealer, which retards leaching of the chromated zinc chloride. To prevent possible spread of fire in the timber approach structure, fire stops made of corrugated Transite on creosoted frames were installed at 125-ft. intervals.

It is planned to add treated filler blocks to the remainder of the structure, and also to apply the sealer to this portion of the bridge. One of the illustrations shows the section of the bridge with filler blocks. In the other section of the bridge, where the filler blocks have not been installed as yet, nor the sealer applied, a considerable amount of checking has become noticeable in the ties not protected with the latter material. Both sets have been in service for more than three years.

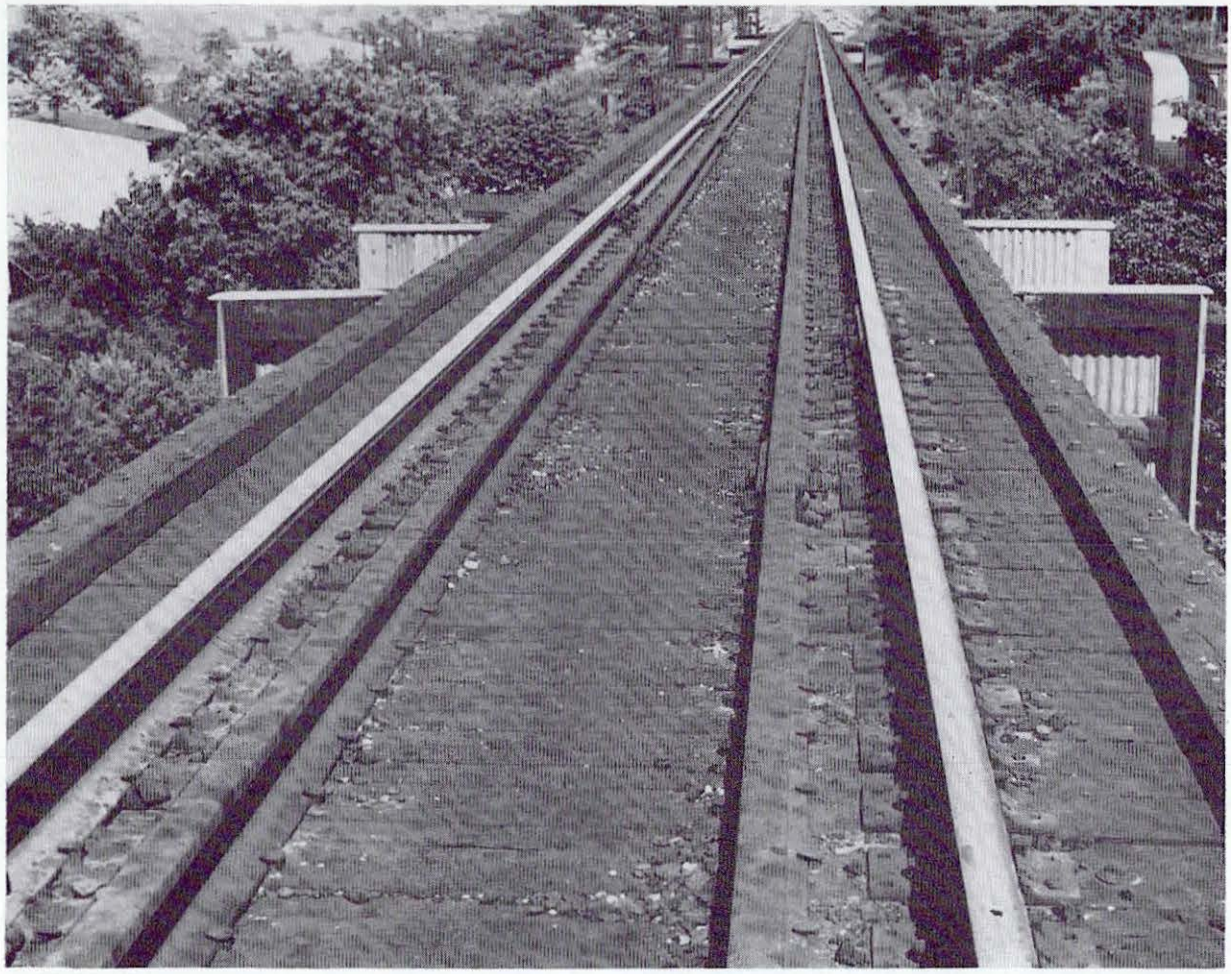
Prior to the time the fire-retardant treated ties were installed in the bridge, consideration was given to the possible effect of the salt treatment on the electrical resistance of the ties, and thus on the track signal system. Consequently, a series of tests was started for the purpose of measuring the difference in resistance of various retentions of chromated zinc chloride as compared to untreated ties. In these tests thirty 7-in. by 9-in. by 8-ft. 6-in. southern yellow pine ties were selected from stock and divided into four groups of 12, 12, 2 and 4 ties, respectively. One group of 12 ties was treated with 3 lb. per cu. ft. of chromated zinc chloride. Another group of 12 ties was treated with 1½ lb. per cu. ft. The group of two ties was treated with ¾ lb. per cu. ft. and the group of four was used as an untreated control. All of the ties were treated in the pilot plant of the Koppers Company at Orrville, Ohio. The treating data are given in Table 1 and the results of treatment are given in Table 2.

Promptly following the pressure treatment of the ties, standard 131-lb. RE plates, 7¾ in. by 13 in. (18 lb.) were attached with two 9/16-in. by 6-in. cut spikes. There were several variations used in the methods of preparing the ties for the application of the tie plates. Some of the ties were prebored with 16 holes before treatment. In another group of the ties, in addition to standard preboring for the tie plates, each tie was also bored with a ¾-in. hole into both ends for a distance

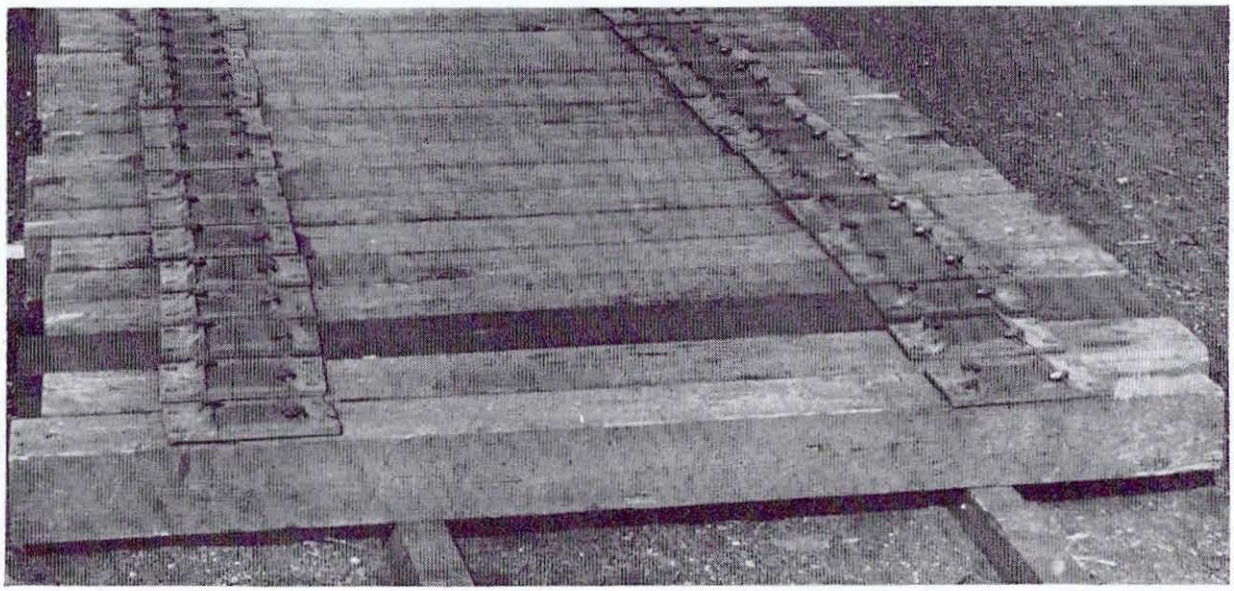
Table I—Treating Cycle Used in Treatment of Experimental Ties for Electrical Resistance Tests

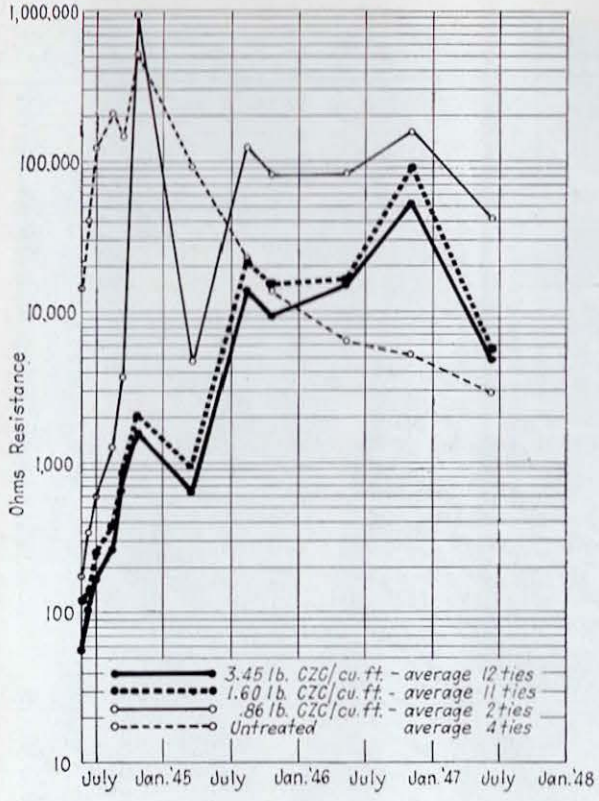
Operation	Charge No. 1 3 lb. C.Z.C.	Charge No. 2 1½ lb. C.Z.C.	Charge No. 3 ¾ lb. C.Z.C.
Steam seasoning	7 hr. 15 min. at 260 deg. F.	7 hr. 15 min. at 260 deg. F.	7 hr. 15 min. at 260 deg. F.
Vacuum after steaming	26 in. for 2 hr. 40 min.	26 in. for 2 hr. 30 min.	27 in. for 2 hr. 30 min.
Initial vacuum	30 min.	30 min.	30 min.
Pressure period	125 lb. per sq. in., 130 deg. F. for 4 hr.	125 lb. per sq. in., 130 deg. F. for 4 hr.	125 lb. per sq. in., 130 deg. F. for 4 hr.
Final vacuum*	30 min.	30 min.	30 min.

* The ties were weighed before steaming, after steaming and vacuum, and after final vacuum. Since the ties were weighed after steaming and vacuum, it was necessary to pull a second vacuum before introducing the treating solution.



Above—Deck of bridge No. 25 of the Chesapeake & Ohio, on which, as a fire preventive measure, the ties were treated with chromated zinc chloride. In addition, on that portion of the deck shown, treated filler blocks were installed between the ties, and the deck was covered with Koppers Clear Non-Flammable Sealer. Below—In making the test of conductivity standard 131-lb. RE tie plates were applied to the test ties, which were then laid in a row on sleepers





Variation in electrical resistance of the test ties during the period they were under observation

of 3 ft. 6 in. A third group of the ties was bored after treatment and the freshly-bored holes were treated with a creosote coal-tar solution, using a Superior hole treater. On some of the ties a piece of tar paper was placed under each tie plate. The variation in the boring of the holes for the tie plates and the fastening of the tie plates are covered by a series of symbols and footnotes in Table 2. Results of the test showed that the various methods of attaching the tie plates had little or no effect on the electrical resistance of the ties.

Making the Measurements

The final step in making the test installation was to place the ties in a row, side by side, on two lines of sleepers laid on the ground. Electrical resistances of the ties were measured weekly at first by means of a Wheatstone bridge. Later these measurements were reduced to about one every three months. At the time the resistances were taken, the ties were also weighed to check the changes in moisture content. The results of the resistance measurements are shown in the chart, which gives the variations of resistance with time.

From the resistance study, the conclusion may be drawn that fire-retardant treatment will not seriously affect the operation of railway signal systems if a reasonable seasoning period is allowed after treatment. After 18 months all the treated ties in the test were higher in resistance than the untreated controls, and remained higher. Based on the results of this study, the decision was made to install fire-retardant treated ties in Bridge No. 25. The ties installed had a retention of dry salts after treatment ranging from 1.5 to 1.75 lb. per cu. ft.

The length of the track circuit at this location is 2,200 ft., of which 1,431 ft. is on the bridge. Current flow to track at the battery end is 340 milli-amperes; current flow through the relay is 206 m.a.; and the resistance unit is adjusted for 2 ohms at the battery end. Five Edison primary batteries, S-500, connected in multiple, furnish the current for this track circuit. The relay is Model 13, rated at 2 ohms, and has 6 points; the recommended working is 0.35 volt and 180 m.a.

Before the fire-retardant-treated ties were installed the average life of the batteries was 155 days. After these ties were installed the life of batteries was reduced to 94 days, then increased until 40 months after installation it was an average of 147 days. A series of comparative readings was made on track circuit R4. The length of this circuit is 1,925 ft., of which 1,295 ft. is on bridge No. 19, where the ties are treated with creosote-coal tar solution. The average life of batteries on this bridge circuit is 180 days.

Thus, both experimental and actual installations have shown that fire retardant treatment of bridge materials will not have a serious effect on the electrical systems of the track circuits.

Table II—Individual and Average Retention of Dry Salts in the Test Ties

Tie No.	Symbol*	Weight Before Steaming	Weight After Steaming	Weight After Treatment	Solution Retained (lb. per cu. ft.)	Dry Salt Retained (lb. per cu. ft.)
1	HP	126	123	208	24.29	3.11
2	HP	167	163	252	24.93	3.19
3	HP	159	159	265	26.77	3.43
4	H	166	158	260	27.42	3.51
5	H	141	139	249	31.43	4.02
6	H	138	134	247	31.13	3.98
7	P	142	135	232	26.72	3.42
8	P	150	143	242	26.86	3.44
9	P	182	178	255	22.00	2.82
10	NB	176	167	260	25.00	3.20
11	NB	159	152	257	28.33	3.61
12	NB	166	160	273	28.54	3.65
				Averages	26.96	3.45
13	HP	163	159	255	26.89	1.58
14	HP	144	140	222	24.70	1.45
15	HP	129	123	214	29.26	1.72
16	H	153	151	211	17.14	1.01
17	H	178	170	263	25.00	1.47
18	H	131	125	221	29.91	1.76
19	P	135	133	235	28.10	1.66
20	P	170	161	256	26.18	1.54
21	P	131	116	216	31.00	1.83
22	NB	159	154	255	27.82	1.64
23	NB	165	158	237	24.53	1.44
24	NB	144	140	230	25.21	1.48
				Averages	26.25	1.55
29	P	129	126	210	24.00	0.871
30	P	153	148	230	23.43	0.851
				Averages	23.72	0.861
25		165 - Untreated controls				
26		197 " "				
27		159.5 " "				
28		132.5 " "				

*Explanation of symbols:
"H" indicates hole in end — A ¾-in. diameter hole was bored 3 ft. 10 in. into the center of each end of the tie, parallel with the faces.
"P" indicates preboring — 8 holes for each tie plate were bored before treatment.
"NB" indicates no boring before treatment.
"HP" indicates a combination of "H" and "P".

Notes
Ties No. 4, 5, 6, 10, 11, 12, 16, 17, 18, 22, 23, and 24 had two holes bored in them for spikes after treatment. These holes were pressure treated with creosote-tar solution with Superior hole treater.
Ties No. 3, 6, 9, 12, 15, 18, 21, and 24 were brush treated at plate bearing, and tar paper was inserted between face of the tie and tie plate.

TREASURERS URGED TO BECOME PROCURERS OF CAPITAL

Barriger address at A.A.R. Division meeting stressed railroading's need for funds to "get obsolescence out" of properties; Colonel Henry called for earnings sufficient to draw new investment money into the industry

Railroading's needs for new capital and thus for earnings sufficient to attract it were stressed in the principal addresses delivered at the annual meeting of the Treasury Division of the Association of American Railroads, which was held September 13-15 at the French Lick Springs Hotel, French Lick, Ind. The addresses were those of John W. Barriger, president of the Chicago, Indianapolis & Louisville, who called capital the "greatest tool of modern industry," emphasizing how treasury officers can play a large part in procuring it and thereby help operating men do their "biggest job" —that of "getting the obsolescence out of these railroad properties"; and of Robert S. Henry, A.A.R. vice-president in charge of the Public Relations Department, who warned that railroading must be a profitable business if it is to attract new investment capital and argued that this requirement will be met only if annual earnings average not less than 6 per cent on investment.

Another "guest" speaker was R. E. Connolly, vice-president of the Illinois Central, who appeared in his role of chairman of the A.A.R. Accounting Division, being one of its former chairmen and a member of the Advisory Committee. Other addresses were those of the division's officers — Chairman Harry Hurst, assistant treasurer of the Pennsylvania, who also presided at the meeting, and Vice-Chairman J. M. Salter, treasurer of the Kansas City Southern; an informal talk by E. H. Bunnell, A.A.R. vice-president in charge of the Finance, Accounting, Taxation and Valuation Department; and an address of welcome by Governor Ralph F. Gates of Indiana.

Welcomed by Governor

In extending Indiana's official greetings to the treasury officers and their guests, Governor Gates took occasion to say that his state was "justifiably proud of the record the Monon is making"; Indianans, he added, "feel that John Barriger is doing a fine job." The governor also spoke of the "tax load," calling it one of the "big problems" of industry. "It is time," he asserted, "to realize that taxation is becoming confiscation of our national resources. The federal government must return to the states many functions usurped in recent years."

During intervals between the addresses the treasury officers disposed of a business docket which included reports of the division's standing committees and sectional groups. Designated as the Treasury Division's eighth annual convention, the meeting was also the thirty-seventh gathering of railroad treasury and finance officers, including meetings held under the auspices of the division's predecessor — the Railway Treasury Officers Association. More than 300 members and guests were in attendance, the guests including, as usual, representatives of many banking and financial institutions. V. A. Hewitt, secretary-treasurer of the Monon, was chairman of the committee on arrangements for the meeting.

The arrangements included operation by the Monon of special trains for the accommodation of those traveling to and from French Lick via the Chicago gateway. The trains, on which Monon President Barriger and Mrs. Barriger rode as host and hostess, were equipped with the Monon's modern coaches and Diesel-electric power. One was operated from Chicago to French Lick on September 12, and the other from French Lick to Chicago after the close of the meeting on September 15. Another Monon tie-in with the convention was the holding of its board's September meeting at French Lick; directors on hand for that meeting were guests at some of the division's sessions.

Salter Succeeds Hurst

At the closing session Vice-Chairman Salter was elected to succeed Mr. Hurst as chairman, and W. B. Pope, treasurer of the Seaboard Air Line, was elected vice-chairman. These actions had been recommended in the report of the nominating committee composed of former division chairmen headed by A. T. Williams, retired, who was formerly assistant secretary and assistant treasurer of the Chicago, Burlington & Quincy. The employment of a nominating committee marked a departure from the division's previous election procedure of nominating all candidates from the floor. The new procedure, which does not preclude nominations from the floor, was adopted upon motion of Vice-President Connolly of the I. C. E. R. Ford continues as secretary with headquarters, as heretofore, at Washington, D. C. The General Oglethorpe Hotel at Savannah, Ga., was chosen for the division's next meeting, which will be held in October, 1949.

Before getting into his discussion of railroading's need for new capital, Mr. Barriger said he had often been asked what the Monon was doing that was "unusual." He tells all such inquirers that it is doing "nothing except making work as much fun as possible"; the management is "trying to show every employee how much fun there is in railroading," because "it's the greatest sport on earth." Also, Mr. Barriger paid tribute to the A.A.R., saying that the "inspiring leader-

ship of Bill Faricy, a truly great man," has made the association the "greatest constructive force" in the industry.

Coming then to the main theme of his address, Mr. Barriger noted that private capital created the American railroads, and went on to predict that "the rate and extent of their future development will be determined by the availability and use of capital." He recognized that of all the ingredients of American industry capital is "in shortest supply," and that it is "most perishable if used improvidently." On the other hand, he asserted that it "can be made almost imperishable if used properly." Thus he warned his audience of treasury officers and bankers ("on whom railroad presidents must lean heavily for advice on financial matters") against acceptance of any conclusion to the effect that "capital is conserved by making it sterile."

Would Encourage "Wise" Expenditures

"Wise expenditures must be encouraged," the Monon president continued. "Too often men in control of finances merely seek to exercise veto power. But they should be hesitant to impede proposed expenditures for new and more efficient facilities unless they are convinced that the proposals are unsound."

Referring to an article he wrote for *Railway Age* (see issue of August 28, page 48), Mr. Barriger recalled that he had there urged accounting officers to "stop being mere scorekeepers and become management's toolmakers." He proceeded in like manner to advise the treasury officers to "stop being mere watch dogs of the treasury and become real aids to management" in its efforts to modernize railroad facilities.

"The railroads," Mr. Barriger added, "stand at the threshold of tremendous physical development. The difficulty of obtaining capital is the big problem. The difficulty arises not only because of low earnings but also because of the railroad industry's relatively slow turn-over, i.e., the high ratio of capital to yearly revenues.

"Moreover, railroad properties have a very long life and thus outlive their economic usefulness. Obsolescence overtakes them, but with the difficulty of procuring new capital there is a tendency to keep facilities in service far beyond the period of their efficient and economical operation. Much is heard of a living wage for labor. What we also need to make this American system work is a living wage for capital."

Mr. Barriger was optimistic as to the outlook for business in this country. He does not think the railroads will have any occasion to worry about a recession or depression for "several years." As he sees it, railroad management's present problem is to equip the properties to handle the available traffic. In making this prediction, the Monon president told the treasury officers that it is "just as bad" to make an unduly pessimistic forecast as it is to be over-optimistic.

Inactive Capital Is Not Conserved

"Don't assume that you conserve capital by holding it inactive," he said. "The future of the railroads rests even more completely in the hands of financial officers than in the hands of operating officers. There never was a time when managements were more anxious than they are now to improve their plants. All they need is capital. Great railroads are rich because they have efficient plants. Any railroad can have efficient facilities adapted to its own situation. The problem is to get the obsolescence out."

A.A.R. Vice-President Henry took this as his text: "How are we doing — for the public and for ourselves?" "For the public," he found the railroads "doing their job." His bill of particulars listed the "better car supply situation," the new efficiency records being made this year, and the fact that freight-rate increases have been relatively moderate, leaving the charge a smaller proportion of the value of commodities hauled than "ever before in recent years." All of this, Colonel Henry said, is the result of investments which brought increased efficiency to cope with rising costs and "relatively stationary" rates.

The A.A.R. Vice-President found the railroads doing for themselves "somewhat better" than they have been doing; but he predicted that the rate of return this year will be less than 5 per cent. He also recalled that earnings of the war years averaged "less than 5 per cent." "Four or 4½ per cent," Colonel Henry continued, "isn't enough to encourage additional investment. What the railroads are getting is equivalent to a rental of $35 a month on a $10,000 house. And that $35 would not be all profit — there would be interest to pay and improvements to make."

As to the industry's call for an average return of not less than 6 per cent, the A.A.R. vice-president said he has heard people concede that railroad earnings should be on that basis only to ask: "But what's that to us?" The proper reply, as the colonel put it, is this: "The nation lives by its railroads. It goes up or down with them. Both in war and peace, privately operated railroads are one of the bulwarks of freedom — one of the outer trenches on the borderline between private enterprise and collectivism. If the railroads should fail to make the grade as private business, the greatest single possible step would be taken toward a collectivist state."

Public Must Be Informed

The public must be made to understand this, Colonel Henry said in closing. He proceeded to call for participation by every railroad in the public relations work involved. And he suggested that few employees can do as much "per capita" as treasury officers who have contacts in "influential quarters."

Meanwhile, Chairman Connolly of the Accounting Division had delivered his address, greeting the treasury officers on behalf of that division and proceeding to advise them of the opportunities they have to win friends for the railroads. This public-relations job, Mr. Connolly said, should begin at home as a movement to convince other departments that the treasury department "is a friendly place to come." He also suggested that treasury officers can build goodwill for the industry in many ways, such as the prompt payment of bills and making the granting of credit a friendly and cheerful transaction.

Chairman Hurst's address stressed the value of association work in the railroad industry and urged the members to participate more fully in division activities, especially those of the sectional groups. "The strength

of the Treasury Division is, and ought to be, in its sectional groups, consolidated by means of the Advisory Committee," Mr. Hurst said. "How Far Have We Come in this Fascinating Railroad Business?" was the title of the address delivered by Vice-Chairman Salter, whose subsequent election to the chairmanship was noted above. Mr. Salter highlighted the progress in railroading since 1883 with special emphasis on the development of standard time. Mr. Salter also recalled past achievements of the division and paid tribute to its "old timers."

Bunnell Calls for Modernization

The brief informal remarks of A.A.R. Vice-President Bunnell were based on the article entitled "Most Accounting Work Can Now Be Mechanized," which appeared in *Railway Age* of September 4, page 51. The article noted how exhibits at the recent Cleveland, Ohio, meeting of the Accounting Division pointed up the availability of modern office machines for the performance of virtually every phase of accounting and other railroad paper work. Mr. Bunnell urged the treasury officers to examine all their paper work with a view to determining where the adoption of machine methods might bring savings. He also urged that they cooperate with the accounting officers in examining all such work affecting either treasury or accounting procedures.

Following the usual procedure for disposing of the meeting's docket, Secretary Ford summarized the detailed report of the Advisory Committee. Where references were made in that report to subjects which chairmen of standing or special committees, or other members, desired to discuss, the presentation of the report was interrupted for such discussion and any resultant action. The report showed that the present active membership of the division includes 294 treasury and finance officers, representing 163 member roads of the A.A.R. and 31 carriers which are not members of the association but hold limited memberships in the division.

The Advisory Committee also reported that actions of the year under review had included the appointment by Chairman Hurst of a Special Liaison Committee. The purpose of this new committee, as the report put it, "is to render expedited assistance and advice to A.A.R. Vice-President Bunnell and to establish an effective liaison between the Treasury Division, the government, and other organizations seeking the views and opinions of railroad treasury officers."

Canadian Claims; L.C.L. Credit

The "Manual of Railway Treasury Procedure Respecting Agency Relations," which was adopted at the division's previous meeting, was distributed to treasury officers last March, the report noted. While it went on to say that this "culminated one of the most important projects of the Treasury Division," it nevertheless warned that the material included in the publication must be kept up-to-date if it is to retain its value. Mr. Bunnell reported that 1,816 copies of the "Procedure" had been distributed as of September 2.

There was considerable discussion of one subject dealt with by the Advisory Committee, viz., the use of United States funds in adjustments with Canadian claimants. The discussion raised the question as to why Canadian dollars bought in so-called "unofficial" markets in this country should not be used by U. S. railroads for the payment of claims filed by Canadian shippers and receivers. William Hobgen of the Canadian Foreign Exchange Control Board was a guest at the meeting; and he explained that Canadian citizens are not permitted to receive such payments in anything but United States currency and that Canadian dollars purchased in the so-called "unofficial" markets in this country were usable in Canada only by tourists.

The upshot of the discussion was the appointment by Chairman Hurst of a committee to discuss the matter with Mr. Hobgen. That committee, headed by P. Nichols, treasurer of the Atlantic Coast Line, reported later that all claims of Canadian customers against United States railroads must be paid in U. S. dollars. It went on to advise that claim departments of U. S. roads should see that any such claims allowed are based on U. S. dollar values.

Reporting developments in connection with the extension of credit, the Advisory Committee noted that the Interstate Commerce Commission last February reopened the Ex Parte 73 proceeding for further hearing as to the credit regulations on l.c.l. freight (see *Railway Age* of February 28, page 74). The issue had been raised before the commission in a petition wherein the Missouri-Kansas-Texas and Texas & Pacific sought modification of previous Ex Parte 73 orders to enlarge the credit period on l.c.l. from the present 48-96 hrs. to seven days. The division took no action on this matter, but Chairman Hurst announced that letters he had received from the territorial railroad associations indicated their opposition to the Katy-T. & P. proposal.

As summarized by Mr. Hurst, these letters held that: Carrier competition does not require modification of present arrangements; there is no foundation for the charge that present arrangements cause the rendition of erroneous feight bills; the great majority of shippers does not use the 96 hours now permitted; it would not be practicable or desirable to have different credit periods for carload and l.c.l. shipments; more liberal arrangements on l.c.l. would increase the cost of handling that business while creating demands for like arrangements on carload traffic; and the latter would increase requirements for working capital.

Other subjects on the docket included joint credit arrangements; extension of credit to forwarders; rail travel credit activities; uniform practice for the honoring of air line exchange orders for passenger and Pullman transportation; and remittances to the Pullman Company covering Pullman ticket sales. In the latter connection R. J. Lascelles, secretary and treasurer of Pullman, explained the simplified remittance plan which has been accepted by the New York Central, Pennsylvania, Baltimore & Ohio, Missouri Pacific and Northern Pacific. Under the plan, practically all ticket offices of these roads deposit Pullman sales receipts along with their own funds; and the agents, instead of drawing station agents' drafts or buying bank drafts or money orders, send a remittance advice to the treasurer of the railroad. The treasurer accumulates these remittance advices, drawing each day one check covering all amounts due Pullman on that day.

SIGNAL SECTION DISCUSSES ECONOMICS

Three-day meeting in Buffalo includes explanations of new practices and equipment which save train time and reduce operating expenses

Officers of the Signal section, A.A.R., include (from left to right): J. A. Beoddy, chairman, superintendent of telegraph and signals, Norfolk & Western; L. S. Werthmuller, vice-chairman, signal engineer, Missouri Pacific; and R. H. C. Balliet, secretary

The adoption of new practices and the installation of modern signaling to save train time and reduce operating expenses were among the more important subjects of discussion at the annual meeting of the Signal Section of the Association of American Railroads, held at the Statler Hotel in Buffalo, N. Y., September 14, 15 and 16. J. A. Beoddy, superintendent of telegraph and signals of the Norfolk & Western, presided as chairman at the meeting, which was attended by 531 members.

In addition to the opening remarks by Chairman Beoddy, addresses were made by P. M. Shoemaker, vice-president in charge of operation of the Delaware, Lackawanna & Western, and J. H. Aydelott, vice-president, Operations and Maintenance department, of the A.A.R. Jesse Clark, grand president of the Brotherhood of Railroad Signalmen of America, spoke briefly of the favorable relations which exist between signal department officers and their employees. He warned however, against unwise and "discriminatory" legislation restricting the rights of employees, which might affect this relationship adversely.

Technical papers explaining modern signaling developments were presented by W. D. Hailes, electrical engineer of General Railway Signal Company, and H. F. Kusick, transportation engineer of Union Switch & Signal Co. Brief abstracts of the addresses and paper are given herewith. In conjunction with the convention, 16 manufacturers presented displays of signaling equipment in the exhibition hall of the hotel. The reports of nine of the twelve standing committees dealt with specifications, drawings, requisites, typical circuits and other technical details of interest primarily to signal engineers and are not discussed here. However, the reports of three committees of more general interest, dealing with economics of signaling, signaling practices, and highway crossing protection, are given in abstract later in this article.

Remarks by Mr. Aydelott

"Modern signaling is now fully recognized as an important element in the economical operation of our railroads. It has increased the capacity of the lines upon which it is installed and in many cases has removed the necessity for second or third main tracks." These were the opening comments of Mr. Aydelott's address, which included the following observations:

The economies through modern signaling are no longer confined to single-track lines but now involve many lines of paired tracks. Through the installation of centralized traffic control it is possible to operate on either main track in whichever direction the occasion requires. Such installations have permitted the abandonment of numerous sidings and eliminated their further maintenance. In many cases had the sidings remained and the old operation continued, extensions would have been necessary—in some cases at prohibitive costs. With rising costs of labor and material these economies are most important. Further, there are some sections of the country in which it is difficult to secure replacements of operators when vacancies occur. In sparsely settled areas where it is necessary to provide housing for these employees the elimination of train-order work and the handling of crossover movements has permitted numerous offices to be closed with worthwhile savings.

Operating officers may be inclined to look with some

misgivings at this removal of wayside personnel because it dispenses with a measure of intermediate train inspection. This inspection, however, is becoming of less importance as the condition of equipment improves. The installation of radio equipment on freight trains for use between the head end and rear end of trains, and between trains, is a most effective substitute for the wayside inspections.

Comments by P. M. Shoemaker

After discussing some of the problems arising from increased railroad operating expenses and inadequate net operating income, Mr. Shoemaker said, "It is ironic that in this postwar period of reasonably good traffic we are earning a woefully inadequate return on our investment and have the compelling necessity for finding new ways of getting more productivity per wage dollar and greater value per material and supplies dollar." Continuing, he said in part:

Our economic condition cannot be bettered by curtailment of service. It must be improved by greater efficiency of operation, with an accompanying higher standard of transportation service to the public. To men in the signal field this means that we demand all the benefits of the latest advances in the science of signaling, but specify that your ingenuity must be exhausted to provide these benefits at substantially less expense than is the pattern today. Both present high maintenance costs and the need for improved operation dictate effectuation of a replacement and modernization program as rapidly as funds become available, yet the decision as to how much can be spent for signaling, in relation to other needs, must be predicated on not only the savings involved, but the overall economic picture.

It is encouraging to note the extent to which individual properties, such as the Louisville & Nashville, the Rock Island and the Wabash, are modifying the original concepts of centralized traffic control, finding that attractive savings are possible without power-operating all entrance switches, without equipping every siding, and by the liberal use of spring switches. Sometimes greatly improved train performance can be achieved with surprisingly simple facilities—automatic "OS" devices and train information signals.

One interesting modification of centralized traffic control is the elimination of sidings and increased flexibility of operation in double-track territory—practical up to a certain level of traffic—by establishing, with suitable crossovers and signals, sections of reversible track. Here again, present high costs rear their ugly head, forcing such questions as to whether the installations shall be made with four, six or eight power-operated switches; and with or without the related use of spring switches in main track crossovers. Such installations are of particular interest from the standpoint—under good engineering—of being a stepping stone toward conversion to single track under C.T.C. operation.

Certainly roads not now signaled will give careful consideration to the advantages of a modified centralized traffic control and operation by signal indications before deciding upon conventional automatic signal equipment. Apparently many roads are finding it profitable to expand operations by signal indication, rather than by timetable and train order, with a minimum of accompanying refinements.

The development of the coded track circuit has permitted good economy in line wire, with the benefit of greater flexibility in signal operation. Is it possible that coded track circuits may be developed further in the direction of achieving a much simplified method of train control, with the possible application of speed control at key restrictive locations?

This brings up the somewhat fundamental question of train control and train stop systems. It is incumbent upon the Signal Section to provide a comprehensive report on the comparative benefits of train stop and cab signaling, covering all aspects of the first cost, maintenance and operating expense of the two systems. Signal men have not yet given operating men conclusive findings on the question of wayside signals being entirely superseded by cab signals, except at interlocking or control points.

Economics of Signaling

Seventeen ways in which modern signaling is paying for itself were explained in extended reports presented by the Committee on the Economics of Signaling. According to these reports, a total of 296 sidings were removed when centralized traffic control projects were completed on 6,891 mi. of line on 24 railroads. The benefits of signaling can be measured by the train-hours saved, but the next problem is to set a money value on trainhours on a particular railroad or division being analyzed. As an aid in this respect, the committee presented typical calculations and formulas, as well as data applying to each of 82 railroads, based on the reports compiled by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The train-hour costs, excluding train crew wages, range from approximately $17 to $42, the composite average being $25.95.

The installation of centralized traffic control on 125 mi. of single track of the Union Pacific between Las Vegas, Nev., and Caliente, where there are approximately 35 train movements daily, has reduced the road time of eastbound through freight trains 122 min., and westbound 82 min. The terminal time of eastbound trains has been reduced 41 min., and of westbound, 39 min. The train-miles saved each month total 4,000 for through freights and 5,228 for helpers. About 88,330 train stops have been eliminated annually and approximately 171,575 man-hours and 32,850 car-days saved each year.

According to one of the reports, modern track circuits and controls eliminate line control wires, thereby obviating the need for such wires. This report gives detailed information to show that the average first cost of pole line construction, as expressed on a wire-mile basis, is $174.20 per wire-mile, and that the maintenance cost per wire-mile per annum is $11.70.

An extended report, including charts and tables, explains methods for determining differences in freight train time saved, with varying train density, with signaling, and another report, with track and signal diagrams, discusses the economics of signals on sidings. A formula for estimating the train-miles saved due to the ability to increase tonnage with modern signaling was explained by the committee. On a 125-mi. project the increase in tonnage, with no change in tractive effort of locomotives, brought about a reduction of 48,115 train-miles per year.

Each year this committee submits tabulations of freight train time saved where trains are operated by signal indication. The table this year lists 13 projects on which the average saving was 0.76 min. per freight train-mile. The reports submitted to date cover 41 installations, including 2,150 mi., and show an average saving of 0.94 min. per freight train-mile.

Yard track indicators are used on several roads to designate the track on which each arriving train is to enter a yard. Compared with the practice of stopping the train while a member of the crew telephones the yard office to get this information, the yard track indicator at one yard, according to one of the reports,

saves an average of 5 min. for each of 12 trains daily, or 365 train-hours annually. The installation cost was $4,596, and the operating expense is $180 a year, with a gross saving of $9,063 annually.

Capacitors, installed in connection with a.c. power distribution circuits in signaling systems, are a means of correcting the power factor, and thus reduce the expenditure for power. On a 3-phase, 60-cycle, 4,600-volt line, 99 mi. long, the installation of capacitors, at the cost of $478, saved 215 per cent on the investment and resulted in improved operation.

The addition of a.c. power distribution circuits and rectifiers to operate in connection with primary batteries on 120 track circuits cost $61 and increased the average life of the primary cells from 60 to 1,676 days, with an overall saving of $3,158.

Signal Practice and Crossing Protection

The report of the Signaling Practice committee included revisions of several requisites and an extended explanation of new signal equipment and practices. Comments from the report follow:

New relays which operate on the biased neutral principle are a means of improving safety and of increasing the length of track circuits, thus reducing first cost, as well as maintenance and operating expenses. A new hand-operated switch machine is capable of handling heavy rail with ease on the part of the operator. Additional features include reverse locking, point detection, built-in electric switch locking. The close-up indication of searchlight signals can be improved by using a new prism which increases the horizontal spread. One road has made an installation of centralized traffic control which is controlled on carrier circuits on the wires of a two-conductor underground cable. Throughout the entire project of 248 mi., several channels are provided for the control of signaling and also for voice transmission. (Details of this project are given in an article in the September issue of Railway Signaling.)

The report of the Committee on Highway Crossing Protection includes new requisites and plans, as well as an explanation of a new practice based on deceleration lanes on four-lane highways where they cross railroads. The four lanes, two for each direction, usually are divided through the center by a parkway.

Statutory requirements in some states that buses, oil trucks and other vehicles stop before passing over a grade crossing, with the hazards incident thereto created by the impatience on the part of following vehicles which may not be required to stop by law, have indicated the desirability of additional space. Accordingly, in the plans submitted by the committee, the four-lane highway has been widened to six-lanes in each approach to the crossing and over the crossing. The additional lane to the right, outside of each traffic stream, permits traffic that is required by law to stop at the grade crossing to decelerate, stop, accelerate and again merge with the normal flow of highway traffic, with minimum delay and interference to other vehicles.

Train Communication Today

In his paper, W. D. Hailes of the General Railway Signal Company discussed many of the present-day problems in the development and application of train communication. Abstracts from his comments follow:

The operating range of the inductive system depends on the distance between the mobile station and the line wires along the wayside. Under average conditions a land station of the inductive system can be expected to maintain communication with trains within a radius of 30 mi. Under favorable circumstances, or in favorable spots along the line, it may be possible to talk with trains 50 or 60 mi. away. The train-to-train range is 15 to 20 mi.

A train communication system that uses space radio does not depend upon the presence of line wires. The distance over which 160-megacycle radio can be operated will depend on such factors as antenna heights and obstructions. However, the nominal range for "point-to-point" communication with this system is 12 to 18 mi. in fairly level country for a land station with an antenna 75 to 100 ft. above ground. The range for train-to-train communication is about 4 to 8 mi., depending on terrain and local conditions. Particularly adverse conditions will reduce these distances, and favorable conditions may increase them, but the operating range for the space radio is somewhat less than that of the inductive carrier.

As a consequence of the differences in the two means of communication, each offers certain advantages and disadvantages which can occasionally be coordinated to produce an integrated system that is either more effective or less costly than either the inductive system or the 160-mc. radio system singly. The longer range provided by the inductive system for point-to-point communication will make it possible to keep in contact with main-line trains with fewer land stations if there are open line wires throughout the territory to be covered.

A combination of space radio and inductive carrier is in service on a 190-mi. section of a major railroad. In this installation, seven wayside stations equipped with inductive carrier equipment are able to cover the entire length of the division for point-to-point and point-to-train communication. Cabooses are equipped with both inductive carrier and space radio units, but locomotives carry space radio equipment only. Thus, point-to-train communication is heard only in the caboose and wayside stations, and end-to-end communication is heard only in the caboose and locomotive. This arrangement is in keeping with the railroad's desire to limit point-to-train communication to the conductor in the caboose, with the engine crew receiving its instructions in turn by space radio from the conductor.

A similar system—one furnishing separate point-to-train and end-to-end links—could also be provided by a dual-channel, all-space radio system. Although some extra wayside installations might be required to cover the distances involved if this were done, such an installation would be independent of line wires, would simplify caboose equipment, and would provide complete interchangeability of all transmitters and receivers.

A space radio installation is in use in a hump yard in the east. The fixed station is at the hump, and the mobile station is located in the pusher engine. The hump conductor at the hump works in close proximity to an outdoor-type control unit, from which he can make immediate contact with the pusher engine. In addition, an indoor control point is located in the hump office, which gives the yardmaster direct communication with the engine, and enables him to instruct the engine crew as to which trains are to be pushed, and to order any special work required.

The use of radio at this hump yard has provided a means of controling humping speeds and trimming operations more effectively and conveniently. The hump conductor is able to instruct the pusher engineman to vary his speed in accordance with the cuts to be made, and when difficulties arise at the hump he can explain the situation. For example, when a coupler pin sticks, he informs the engineman of the trouble immediately, and instructs him as to the handling of the train to correct the situation.

In his paper dealing with signaling for modern

railway operation, H. F. Kusick, transportation engineer of the Union Switch & Signal Co., reviewed the development and application of modern signaling systems, such as automatic block, centralized traffic control and car retarders. Abstracts of portions of his paper follow:

Signaling for Modern Railway Operation

Railway signal systems make it possible for the transportation job to be done quicker, over a minimum trackage, and with fewer locomotives and cars. Signaling not only reduces the direct operating costs per unit of transportation performed, but also reduces the fixed costs applicable to each unit by keeping capital requirements at a minimum.

A signal system is something more than a combination of physical devices; it is the key working unit of most methods of train operation. Physically, the signal system is a part of the roadway and structure plant of the railroad, but a signal system at work is a producing tool of the operating department. It has always been closely allied to the train dispatching system of the railroad, and, in many cases, has become the complete dispatching system.

It is possible to do a reasonably good job of forecasting the operating benefits from a signal installation by the employment of procedures set forth in various reports of Committee I, and in other papers appearing in Signal Section literature. These operating benefits can be translated into estimated dollar savings to provide a good basis of comparison between projects which may be in competition for all allocation of investment funds.

The cost of C.T.C. installations is almost directly proportional to the number of sidings equipped. Studies of the traffic needs in a particular territory often will show that the number of sidings needed with this method is less than with timetable and train-order operation. We have proved that we can fit the system economically to a variety of single-track conditions by reducing the numbers of sidings controlled and simplifying the signaling; and thus extend the probable field of economic application into the lighter traffic densities.

Sidings should be somewhat longer than the longest train in order to gain full advantage of the power switch and high-speed turnout for trains entering the sidings. Committee I last year presented a formula which, in effect, establishes siding length as the length of train, plus a computed additional length dependent upon operating factors obtaining locally. In the example worked out in the report, this amounted to the length of train plus about 1,660 ft.

BESTOW HARRIMAN AWARDS FOR 1947 SAFETY RECORDS

The perennial safety campaign of the nation's railroads achieved notable success in 1947, particularly with respect to passenger safety, Revelle W. Brown, president of the Reading, said at the Harriman Award dinner of the American Museum of Safety held at the Hotel Ambassador, New York, on September 15. "The record for 1947 shows that fewer passengers lost their lives in railroad accidents than in any of the 60 preceding years covered by Interstate Commerce Commission records," he added. "The railroads performed 46 billion passenger-miles of service, which is equivalent to transporting every man, woman and child in the country a distance of over 300 miles. In this tremendous movement of persons, 65 passengers lost their lives and 10 others subsequently died; and this I wish to emphasize—of the 75 deaths, 50 were due to human failures, 9 to technical failures, and the causes of the remaining 16 were unspecified."

Conceding that individuals played a great part in establishing railroad safety records, Mr. Brown said, however, that human failures or negligences are still responsible for approximately 85 per cent of all accidents and he urged that safety efforts be directed toward the elimination of human carelessness and indifference to safety programs.

For the best safety record last year among class A roads (those operating more than 10,000,000 locomotive-miles annually), a gold medal was awarded to the Norfolk & Western. R. H. Smith, president of the N. & W., accepted the award, which was presented by Robert V. Fletcher, special counsel of the Association of American Railroads and chairman of the American Museum of Safety's award committee. The gold medal for the best safety record among class B railroads (those operating less than 10,000,000 locomotive-miles but more than 1,000,000), went to the Charleston & Western Carolina, whose president, C. McD. Davis, accepted it. G. N. Curley, general manager, Eastern region, of the Canadian Pacific, accepted the gold medal awarded to the Canadian Pacific Lines in Vermont for having the best safety record among class C railroads (those operating less than 1,000,000 locomotive-miles).

Certificates of commendation for outstanding performances in railroad safety were awarded to the following: Eastern district—Reading (Class A), accepted by Mr. Brown; Detroit, Toledo & Ironton (class B), accepted by S. P. Ruddiman, president; Missouri-Illinois (class C), accepted by W. H. Bailey, superintendent of safety; Western district—Great Northern (class A), accepted by F. J. Gavin, president; St. Louis Southwestern (class B), accepted by F. W. Green, president; Lake Superior & Ishpeming (class C), accepted by August Syverson, vice-president and general manager; Southern district—Southern (class A), accepted by E. E. Norris, president; Georgia (class B), accepted by S. R. Young, general manager; Mississippi Central (class C), accepted by J. Curtis Platt, president. Mr. Syverson, in accepting from Judge Fletcher the certificate presented to the L. S. & I., remarked that the award will be photographed in postal card form and a copy sent all employees.

Mr. Brown was the principal speaker at the dinner which was attended by many railroad officers and industrial leaders. Tracing the results of the carriers' safety efforts since the start of formal, intensive campaigns for that purpose in 1912, Mr. Brown said: "Passenger business has increased during these years 43 per cent, freight traffic increased 152 per cent and yet . . . . passenger injuries have dropped 72 per cent and employee injuries 74 per cent." As a result, the Reading officer continued, "rail transportation is 19

The speakers' table (background), and some of the guests at the Harriman Memorial Awards dinner in New York

Left—R. H. Smith (left), president of the Norfolk & Western, looking on as Wallace J. Falvey (second from right), president of the American Museum of Safety, presents the gold medal certificate won by the road to D. W. Naff, N. & W. superintendent of safety. C. H. Tabor, vice-president and general manager of the road, is standing at the right

Below left—Left to right: Robert V. Fletcher, special counsel, Association of American Railroads and chairman of the American Museum of Safety's award committee; C. McD. Davis, president of the Charleston & Western Carolina, one of three roads winning gold medals; Mr. Falvey; R. W. Marye, general manager of the C. & W.C.; and W. S. Evans, traffic manager

Below right—J. C. McCuaig (right), general safety agent, Canadian Pacific, standing by as Mr. Falvey (center), hands a certificate attesting to the winning of a gold medal by the Canadian Pacific Lines in Vermont to G. N. Curley, general manager, Eastern region, C.P.R.

Above left—Revelle W. Brown (left), president of the Reading and principal speaker at the dinner, accepting the certificate of commendation earned by his railroad

Above right—The Great Northern also earned a certificate of commendation, which is here being received by F. J. Gavin (right), G. N. president

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times safer than the commercial airplane, 15 times safer than automobile driving and one-and-two-tenths safer than bus travel."

The railroads' alert attention "to the necessity of constant improvement" was cited by Mr. Brown as the cause for their great safety record. Aside from the research conducted by the individual roads and the collective research of the A.A.R., the nation's railroads call upon the scientists and inventors of the world for their knowledge and products which contribute to greater safety. He pointed out that there is still room for improvement. Noting that money paid on personal damage claims from railroad accidents has increased 175 per cent, and on freight claims 388 per cent, since 1912, Mr. Brown said that reduction of human failures would substantially lower these figures. In recent years, he remarked, "accidents due to human failure increased 11 per cent, while those due to mechanical failure decreased 12 per cent."

Harry W. Fraser, president of the Order of Railway Conductors and chairman of the Railway Labor Executives Association, also delivered an address in which he recalled what railroad safety meant to him during his 49 years of railroad service. Before 1912, he said, employees paid little serious attention to safety. Great improvement has been noted since then, however, and railroad men must "bend every effort" to continue the progress, the labor official stated.

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TOP PASSENGER OFFICERS TALK OVER THE MARKET

In a crowded docket of addresses, discussions and reports which seemed to agree in stressing the fact that the human element will be a greater problem in the future than the physical—and therefore management's biggest job—some 225 members, their wives and guests of the American Association of Passenger Traffic Officers met in the 85th annual session on September 14-16 at the Stanley Hotel in Estes Park, Col.

Presiding at all sessions was President Albert Cotsworth, Jr., passenger traffic manager of the Burlington Lines. Among those addressing the meeting were Ralph Budd, president of the Burlington, C. R. Harding, president of the Pullman Company, and C. R. Osborn, vice-president of General Motors Corporation and general manager of its Electro-Motive Division. Judge Wilson McCarthy, president of the Denver & Rio Grande Western, acted as toastmaster of the convention dinner dance, stating in the course of his remarks that he "appreciated passenger officers not so much for what they produced as for their eternal hope." The Very Reverend Paul Roberts, dean of St. John's Episcopal Cathedral, of Denver, was the evening's speaker.

Elected president for the ensuing year was E. D. Osterhout, passenger traffic manager of the Reading, who, in his acceptance speech, declared that railway management is showing "unexampled sportsmanship" in buying the finest new passenger equipment and that the passenger departments should match this good will by examining their operations and doing everything possible to "streamline" them. C. E. Bell, passenger traffic manager of the Seaboard Air Line, is the association's new vice-president, and B. D. Branch, retired general passenger agent of the Central of New Jersey, begins his 10th year as secretary-treasurer.

E. D. Osterhout

Budd Sees Future in Main-Line Business

Speaking "as an executive and not an expert in passenger affairs," Mr. Budd said that any activity which grosses more than $1 billion a year is not small and that railroad management is greatly concerned with the passenger problem. Recalling that too many were unaware of the great decline in passenger revenues after World War I because the profits of flush freight business hid it, the speaker hoped that this history would not repeat after World War II.

Regarding the physical plant which passenger men will have to sell, Mr. Budd feels sure that it will be better than ever. Within the definite limits of size and weight imposed by line and gage, passenger cars will be more comfortable than ever. He stressed the great improvement in car trucks during the past 10 years—which will continue. As for motive power the "trick," he declared, is to keep the trains running at as near maximum speed as possible all the time. "So far as we can see now, the Diesel is the answer," but passenger men will welcome any new and improved form of steam power, remembering only that "the Diesel will always be as good as it is now and, to supersede it, other forms of power will have to be better." The track under high speed trains now has the benefit of mechanized maintenance, which Mr. Budd called "the fastest-moving development in railroading today."

The family automobile, which "is a way of life and not a means of transport"—and, therefore, is not held to close cost comparisons—has made it unnecessary and impracticable for railroads to render branch-line passenger service. But while the overall service of the roads has thus decreased, the traffic that remains is concentrated on main routes between centers of population, so that the city terminal problem is greater than ever, with arrivals and departures bunched and tracks too short.

Commenting on the personnel aspect of passenger service, the Burlington head declared: "There is no service on the railroads which compares in complexity and intricacy with the passenger business; I know of no other phase of railroading which requires the cooperation of so many interests and departments. If any one of them fails to please the passenger from the time he thinks about taking a trip until the time he gets home therefrom, his whole trip is spoiled." Later he said, "We are mass service carriers and, therefore, have complicated problems." Among the conditions which he observes, but to which he does not have the answers, are long queues before ticket windows because present methods of issuing tickets are too slow; "poor red cap service everywhere"; and certain lacks of courtesy in train crews which may arise, on some roads, from the fact that they spend their early days in freight service. To correct the latter deficiency he urged that employees, upon entering passenger service, be instructed in the differing requirements in handling passengers, as contrasted with hogs. In general, Mr. Budd believes that good treatment of passengers is more important than age or condition of rolling stock.

Of fares, the speaker expressed the opinion that since, on the basis of the Interstate Commerce Com-

mission's formula, "practically all" passenger service is rendered at a loss, the commission will be receptive to requests for higher fares. Raises in fares are only aggravated by the 15 per cent transportation tax which he called "an outrageous thing." Originally intended to discourage travel during the war, it continues to do so, in the face of a completely reversed situation.

Shippers who complain that the railroads are wasting *their* money on new streamliners are completely wrong, Mr. Budd pointed out, because it isn't the good trains that lose money, but the plug locals on the branch and secondary lines. Believing "that the provision of excellent passenger service on main routes has a wholesome effect on public opinion and tends to attract freight patronage," the Burlington's president urged that the railroads concentrate on giving fine service between centers of population and "leave the non-paying trains for the lawyers to get off."

Diesels at Head End

In an address titled "Diesel Locomotives in Passenger Service," Mr. Osborn emphasized the necessity for any business constantly to give the public what it wants. If it does not, it will retrogress. Motor manufacturers, he noted, produce a new model each year, at great expense for retooling, on the promise of their sales departments that they will sell enough new cars to spread the cost very thin. The manufacturers of women's hats thrive by convincing every woman in the country that she must throw away her hats and buy the latest. Economic waste or not, newness and smart merchandising are what the public wants—and will get.

While it is impossible for the railroads to come out with a new model every year, they have natural assets on which to capitalize: (1) universal desire to travel; (2) safest form of travel; (3) "insatiable" fascination of the public, as evidenced by the huge success of the Chicago Railroad Fair.

To capture this market, declared Mr. Osborn, the railroads must achieve three main things:

(1) Economical charges, though elusive while this inflationary trend continues, must be provided and, when prices generally *do* decline, the roads must see to it that their fares are in line. In the reduction of costs to make this possible Diesel locomotives have an important role. Already they have reduced costs so that "they may be said, literally, to have paid for themselves in direct savings over steam operation" and at the same time attracted additional patronage. Had the railroads used Diesels for the work performed by steam locomotives in 1947, they would have saved half the fuel bill—or $340 million—and 40 per cent of the repair bill—or $210 million—or a combined saving of $550 million, he declared, which is sufficient "to increase the average return on total railroad investment from three per cent to five per cent."

(2) Good, fast reliable service is both a competitive necessity and advantage, asserted the speaker. The air lines, he said, have gained the reputation of being careless about keeping schedules and have not yet developed on-time performance into the religion it is for railroaders.

(3) Improved comfort and striking design of equipment will not only win patronage, but will garner profits, the Electro-Motive head emphasized, pointing to the earnings of popular streamliners. He recalled that one road, so bankrupt that his company would sell it parts for its motor-rail cars only on a C.O.D. basis, came to E.M.D. in 1935 and asked for 100 per cent credit on $5 million worth of equipment—and got it. On a total original investment of $6 millions, this road subsequently enjoyed a net profit, after all charges, of 60 per cent per annum. Reporting that the "Train of Tomorrow"—which he originally considered merely "an engineer's testing of public taste," and for which he asked only three months' exhibition in 12 cities—has proved to be one of the greatest public-relations assets that General Motors has ever enjoyed, Mr. Osborn told his audience that, today, after more than 18 months of public display, the train is attracting as much public interest as ever. An average of more than half the people who attend the Chicago Railroad Fair wait in line every day to go through the train. "I suggest you let your imaginations run wild in designing equipment."

C. E. Peterson, vice-president—system passenger traffic of the Southern Pacific, addressed the meeting on the subject "The Quality of Our Merchandise." Defining "good service" as that kind "which makes people more willing to pay the price we charge," he said it includes a host of items which may be grouped under the characterization "precision and smartness of service." The obstacles in the way are "those cost pressures requiring economy of operation which work against convenience and precision of operation" and "the human element factor in manufacturing, selling and delivering our merchandise."

On the physical side, the speaker stressed the necessity for roads desiring to stay in the passenger business to "go out and order as much new equipment of various types as their railroads need, or at least as much as their financial strength possibly permits. I'll only say that the next few years are critical in this respect. If we don't modernize our passenger-carrying facilities as quickly as we can, we are going to be left behind by our competitors—the plane and the bus—and it will be too late to catch up." With respect to personnel factors, Mr. Peterson said that the way to good service lies in (1) good planning, (2) good training, and, (3) "making it easier for employees to give good, error-free service."

Specific fields of human performance in which he saw the need for drastic improvement are the issuance of tickets; ticket-office accounting; reporting of arrival of trains; coordination with operating departments; employees' knowledge of their jobs; spotting of trains at terminals in time for unhurried loading; handling of hand-baggage from seat to taxi stand; treatment of coach passengers; handling of complaints; and furnishing of explanations to passengers when things go wrong. Mr. Peterson also urged greater standardization of rolling stock, particularly for through trains, to cut down reservation errors, maintenance charges and first cost. But it is "the human factor," declared Mr. Peterson, "where our greatest opportunities lie. While we may be critical of employee attitudes, productiveness and efficiency, improvement of these lies to a large extent in our own resourcefulness and in our own planning and management."

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During the year joint railroad-Pullman committees completed or undertook surveys of Pullman methods on individual roads, to determine the extent to which supplies and materials may be exchanged by the two parties and the efficiency of existing operations. Thus far, suggestions for changes in maintenance practice of Pullman have related "only to minor details," confirming that Pullman's operations "are conducted with a high degree of efficiency."

Successful Railroad Tours

Railroads can operate their own all-expense tours, not only to the advantage of passenger volume, but at an actual overall profit. This is the conclusion reached by H. W. Quinlan, passenger traffic manager of the New York, New Haven & Hartford, after several years' postwar operation of that road's Pilgrim Tours. This year, the road is operating 42 tours into New England and 22 tours out of that region, ranging from 2 to 14 days in duration and varying in price from $35 to $235. In 1947, first full year of re-establishment of the tours after the war, total gross revenue received therefrom was $314,339, of which $33,535 was railroad fare—being, in all cases, Mr. Quinlan emphasized, at the *regular* one-way, single-person rate. By adhering to standard rates, the New Haven conserved its own revenues, and avoided undercutting competitive tours by travel agents.

The latter are invited to sell the railroad's tours, on a commission of 10 per cent of total tour price, and contrary to general belief, the majority of the agencies "are pleased to have these tours available to them and are highly cooperative in selling them. In 1937, 35 per cent of the 3,530 tours sold were marketed through travel agents. The main selling force for the tours are tour bureau managers at New York and Boston, but additional outlets are afforded by payment of a 10 per cent commission on total price to railroad ticket agents, and passenger sales representatives are urged to promote their sale as a part of their solicitation duties.

Interesting facts about the 80-year-old "Official Guide" were presented by A. J. Burns, president of the National Railway Publication Company. The speaker observed that publication of a national compilation of railway schedules was debated by the General Ticket Agents Association (predecessor of the A.A.P.T.O.) as early as 1862, culminating in authorization, in 1870, of the "Traveler's Official Guide" by that organization as the sole standard official source of schedule and mileage data.

Among subject committees reporting was the Committee on Developments and Improvements in Train Service and Equipment, of which Mr. Whittington was chairman. It presented detailed data on developments over the past 12 months based on checked reports from railroads and equipment manufacturers. The report stated that the roads now operate more than 250 streamliners, the 2,500 cars of which are entirely new. An additional 2,000 cars of streamline design are in service on other trains and 2,000 or more cars are on order. Some 43 of the largest cities in the country are now connected by streamliners.

The committee on Motor Coach Service and Competition (chairman R. J. McDermott, general passenger traffic manager of Missouri Pacific Lines) considered one of the important current developments in the bus industry to be consolidation into "closely integrated groups," while, at the same time, feeder lines are left to independent owners who can operate at lower unit costs, their goodwill being retained by traffic agreements or leasing arrangements. Many new charter operations are being formed for special services, which, having the advantage of door pick-up and delivery, will give the railroads and common carrier buses stiffer competition. Continued withdrawal of local passenger services by the railroads, said the committee, has greatly diminished the amount of through rail travel sold by local station agents.

The Committee on Commercial Aviation Development and Air Line Competition (chairman, C. H. Gattis, assistant passenger traffic manager of the Seaboard Air Line) concluded that "it is very clear that the public generally and the Congress feel it is necessary for the air lines and the airship manufacturers of the United States to be strong and to be prepared to support our military needs," a sentiment which is evident in the widespread subsidies for air transport. The report pointed out that the federal government is spending large sums to glamorize and indoctrinate for the "air age"; that, despite financial losses, the commercial air carriers are increasing rapidly, having enjoyed revenues in the 12 months ended March 31, 1948, one third the total passenger revenues of all Class I railroads; that Congress is being pressed for subsidies for research and development of commercial aircraft; and that the competition of uncontrolled charter planes is growing more bitter.

The Committee on Research, H. A. Sengstacken, assistant passenger traffic manager of the Milwaukee, chairman, reported on an agenda of 14 items:

(1) Everyone dealing with passengers should be made sales-minded.

(2) For optimum pricing of passenger travel, continuous study should be made of economic conditions so that fares will follow "the trend" without loss of time and revenue.

(3) Training of passenger sales personnel should be intensive and long-range.

(4) Reservation methods must be improved.

(5) Ticket office procedures need simplification and, in some instances, mechanization.

(6) It is important that all departments of the railroad join in giving good passenger service and that all railroads jointly and severally protect the quality of rail service as a whole.

(7) Continuance of division committees and furnishing of the construction of joint fares concurrently with the issuance of tariffs are desirable.

(8) To end the complexities produced by recent fare changes, there should be re-issued as soon as possible all tariffs which do not show the current fares in dollars and cents.

(9) The roads should give the public and employees frank explanations of their services and activities.

(10) Useful statistics should be compiled and, more important, used.

(11) The federal transportation tax is a drag on travel and a discrimination against common carriers.

(12) A single fare class, with built-up Pullman charges, is not so much a question of revenue as of public policy; the old surcharge was always unpopular. The fact that Pullman is railroad-owned will bear on future consideration of the question.

(13) It is questionable whether the roads should establish hotel reservation bureaus.

(14) When people can get the automobiles they want, perhaps there will be less opposition to withdrawal of unprofitable trains.

FUEL OIL FOR DIESEL LOCOMOTIVES

A report on the requirements in relation to petroleum supply by the Electro-Motive Division and Research Laboratories Division of General Motors Corporation

FOREWORD by CHARLES F. KETTERING

The outlook for future petroleum supplies is a matter of great importance because our vital transportation industries are dependent to a large extent upon some form of oil for power. Even though year after year new discoveries of petroleum have more than equaled the ever-growing demand, recent temporary local shortages of petroleum, particularly heating oils, have caused an increasing amount of public concern.

Our nation has become so dependent upon the Diesel locomotive because of its superior performance and its high operating economy that attention has been focused on the increasing use of Diesel fuels by the railroads. To evaluate the railroad liquid fuel requirements and to appraise the outlook for their continued future supply, it is essential to consider the amount of fuel used by the railroads in relation to the quantities used by other important consumers.

From analysis of the facts as presented in the following pages, I am confident that American industry has the resources and the ability to meet the growing fuel demands of our transportation industries, including the railroads, for a great many years to come.

The shortage of petroleum products, brought about by an unprecedented postwar demand, has naturally caused concern about the future supply of liquid fuels to serve the domestic needs of our country and to provide for the national defense in time of war. Difficulties in obtaining sufficient fuel oil for home heating in certain parts of the country aroused protests from many local, sttae, and federal officials and agencies.

The publicity which was given to these protests singled out the Diesel locomotive as one of the principal offenders in causing the fuel shortage. In fact, certain elements have contended that the expanding use of Diesel power by the railroads has placed a heavy burden upon the refining capacity of the country and has further accelerated the drain upon our diminishing oil reserves. These contentions are so misleading that it is imperative for the guidance of national policy to bring out forcibly the true facts of the situation.

In 1947, the total consumption of petroleum products in all fields of use was about 5½ million barrels per day. Of this total, the railroads,* according to Interstate Commerce Commission reports, absorbed some 317 thousand barrels per day, or six per cent, as follows:

	Bbls. per day
Heavy fuel for oil-burning steam locomotives	265,000
Diesel fuel for all Diesel-electric locomotives	52,000
Total	317,000

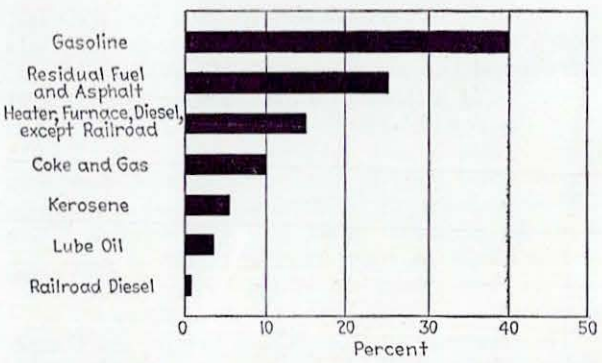
For the 265,000 barrels of heavy fuel burned per day, the oil-burning steam locomotives performed about 18 per cent of the work done by the American railroads. The Diesel fuel consumed by Diesel-electric locomotives in 1947 was one per cent of the total consumption of all petroleum products. For these 52,000 barrels of Diesel fuel per day, the Diesel-electric locomotives performed about 19 per cent of the work done. The balance of the work, some 63 per cent, was performed by coal-burning steam locomotives and electric locomotives using central station power, much of it coal generated.

If all of the work done on the American railroads in 1947 had been performed by Diesel-electric locomotives, the total consumption of Diesel fuel would have been about 256,000 barrels per day. This amount is less than five per cent of the total consumption of petroleum products in all fields in 1947, and is less than the quantity of heavy fuel consumed by the oil-burning steam locomotives in 1947.

According to the reports of the Bureau of Mines and the American Petroleum Institute, automobiles, trucks, buses, farm tractors, and airplanes, which collectively consumed approximately two million barrels of gasoline per day in 1947, are the principal users of petroleum products. Users of residual fuels and asphalt consumed about 1,550,000 barrels daily. The oil home-heating equipment took about another 580,000 barrels per day. Altogether, the 1947 liquid fuel consumption was divided as shown in one of the charts.

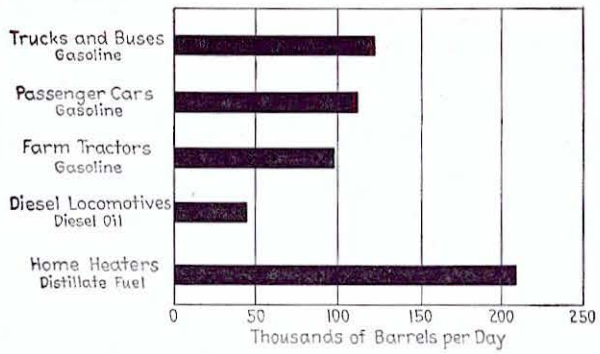
Much of the misunderstanding concerning the overall fuel situation has come about from the argument that Diesel-electric locomotives consumed 633 per cent more fuel in 1947 than in 1941. This 633 per cent represents an increase only from 7,100 barrels per day to 52,000 barrels daily, or a net increase of 44,900 barrels per day. Meanwhile, over the same period, the increased consumption by other users of liquid fuel was as shown in the second graph.

The increased consumption of petroleum products between 1941 and 1947 by all users other than railroads totaled 986,000 barrels per day. The 44,900 barrels



How consumption of petroleum was divided in 1947

*Class I railroads, including switching and terminal companies.



Increase in consumption of petroleum products 1941-1947

daily increase in Diesel fuel consumption by American railroads is by comparison but a drop in the bucket.

The railroads of our country are recognized as an indispensable facility for the well being of industry, agriculture, and communication without which present standards of living would be impossible. They are also a vital necessity for the national defense in time of war. To say that the railroad industry should continue to supply such facilities without an adequate financial return is to expect the impossible.

The Case for the Diesel Locomotive

Yet the railroads are confronted with a rigid income and expense structure. They cannot offset rising costs of material and labor by increasing the price of their services, until approval is secured from regulatory bodies exercising strict government regulation of rates. Such approvals, if granted, have customarily lagged far behind the conditions which required them. The railroads must also deal with powerful unions in their wage agreements. These unions have yet to fail in obtaining ever-rising wages entirely apart from work done or services rendered.

The net effect of these rigidities and other factors on the railroads' financial structure over the past twenty years has been disastrous. During the decade of the 1930's, one-third of the railroads were insolvent and in receivership. Over the 20-year period, a net return on invested capital of slightly over three per cent per year for all railroads has been insufficient to attract new capital for improved services and the extensive modernization of facilities.

Until the Diesel locomotive arrived on the scene in 1936, the railroads appeared powerless to accomplish the rehabilitation of their properties and the reorganization of their finances within the limitations imposed by government control of income and union control of wages. Predictions were rife that the railroads of America were headed for outright government ownership. Today, the picture is quite different.

So effective have Diesel locomotives been in reducing operating costs and improving services that they have literally paid for themselves out of direct savings over steam operation while at the same time they have built increased traffic and revenue for the railroads. The "Zephyrs," "Rockets," "Chiefs," "Streamliners," and a host of other Diesel-powered passenger trains have converted many losing services into highly profitable ones. Schedules from Chicago to the Pacific Coast have been reduced by the use of Diesel power.

In switching service, Diesel locomotives during the year 1947 performed over 32 per cent of the switching work done at savings up to 40 per cent per annum on their first cost. In main-line freight service since 1940, Diesel locomotives have taken over the heaviest and fastest freight movements with savings up to 25 per cent per annum on their first cost. Ofttimes, because of higher speeds, the ability to haul longer trains, and greater availability, one Diesel locomotive will replace between four and six steam locomotives.

The two principal ways by which Diesel locomotives effect direct economies over steam are in fuel consumption and in repair costs. In 1947, according to the Interstate Commerce Commission reports, the total fuel bill for steam locomotives was approximately $582,000,000 for coal and fuel oil combined. Had the work performed by these steam locomotives been handled by Diesel locomotives at the same cost recorded by Diesels then in operation, this fuel bill would have been more than cut in half with savings of $340,000,000.

During the year 1947, the railroads spent $527,000,000 on the repair of steam locomotives. Based on the maintenance and repair costs of Diesels then in service, 40 per cent of this amount, or $210,000,000, could have been transferred from operating expense to earnings by complete Dieselization. The combined savings in fuel and repair costs for the year 1947 would have totaled $550,000,000. Such a contribution to earnings is sufficient to increase the average return on total railroad investment from three per cent to five per cent and would do much to encourage continued investment in better railroad plant and facilities with which to provide improved transportation services at the most economical cost.

Not only does the Diesel locomotive provide means for substantial improvement in railroad service and financial structure as outlined above, but it is the most efficient and economical way to transform liquid fuel into useful work. Diesel locomotives haul goods with five times the fuel efficiency of steam locomotives. When hauled by Diesel locomotives a loaded freight car weighing 40 tons, or more than 20 times the weight of the modern automobile, travels 16 miles per gallon of Diesel oil at an average speed of 22 miles per hour. Thus in the whole vital overland transportation service real conservation of our petroleum resources would be accomplished by Dieselization of our railroads. In contrast, home heaters obtain practically the same heating efficiency with coal as with oil. Thus the substitution of oil for coal in home heating reduces the liquid fuel reserves without any offsetting gain in efficiency.

What About the Future?

We, who have pioneered the manufacture of Diesel locomotives for the American railroads, are just as interested in the future of the liquid fuel situation as anyone in goverment, industry, or the general public. The deficiency in supply of petroleum products is just as real as that in steel, meat, or newsprint under conditions of abnormal usage. We earnestly support any

proposals for the relief of this condition and for the conservation of our petroleum reserves which are for the greatest good of the greatest number of our people.

Specifically, in order to obtain an increase in the supply of liquid fuel, the oil industry must expand its refinery capacity with modern equipment capable of getting the most fuel possible out of a barrel of crude oil.

This need has been recognized by the oil industry and additional refining capacity is being provided just as fast as equipment can be procured, requiring an investment running into billions of dollars. Therefore, there is great risk in formulating any long-term transportation policies based upon conditions which we have every right to believe will be of short duration.

The consumption of gasoline by automobiles, trucks, buses, and airplanes in 1947 had doubled since 1930. Not only has the number of vehicles increased, but in the case of automobiles the consumption of gasoline per car per year has increased from about 500 gallons to about 700 gallons. This is due to increased annual mileage and to the increased average age of cars in use.

If the miles per gallon of existing cars and trucks could be increased by just one mile per gallon, the saving in gasoline consumption would amount to about 150,000 barrels per day. Slower driving speeds alone would provide this much economy. Diversion of 150,000 barrels per day of cracking stock to produce Diesel fuel would provide three times the total 1947 railroad requirements.

But an attack on the fuel economy problem, more fundamental than reduced speed, is needed. General Motors has long been working on the development of high-compression engines to use high-octane gasoline. These developments have progressed to the point where engines capable of 40 per cent fuel savings will ultimately become available. The problem of manufacturing sufficient quantities of high-octane gasoline and the problem of distribution are of such magnitude that progressive steps must be taken to reach this ultimate goal.

Test automobiles with engines producing an immediate fuel saving of 20 per cent have been in operation for hundreds of thousands of miles. While it is recognized that the fuel savings on a national basis will be directly proportional to the number of automobiles placed in service with engines of this advanced design, nevertheless, the potential savings aggregate 400,000 barrels of gasoline per day which is equivalent to eight times the amount of Diesel fuel consumed in 1947 by the American railroads.

Conclusion

The living habits of our people and the economy of our country are permanently geared to the use of automobiles and trucks. Progress can and will be made in improving efficiency and reducing consumption in this field through technological developments in both the automotive and petroleum industries. However, it must be admitted that the eventual exhaustion of our oil reserves when and if it occurs will be due in large measure to fuel usage by these machines. In anticipation of this eventuality, it must be expected as a matter of national necessity that effective means will be developed in the near future to produce synthetic liquid fuels economically. When this is done, it is not too much to expect that the small additional capacity required to supply Diesel fuel for railroad consumption also will be provided.

It has been stated by some leaders in both government and industry that the shortage of liquid fuels and the huge availability of coal warrant the adoption of a transportation policy favoring the continued use of coal-burning steam locomotives by our railroads instead of Diesel-electrics. Emphasis is laid upon the vulnerable position of the nation at war, our limited oil-refining capacity, and the tremendous drain upon our limited oil reserves through the years, from progressive Dieselization of railroad services.

It has been shown that this national policy, if adopted, would actually increase the use of liquid fuel unless both oil-burning steam and Diesel locomotives now in use were disposed of and the entire railroad operation conducted by coal-burning steam locomotives. If such a backward step were seriously contemplated, a review should be made of the transportation problems during World War II and how they were solved. Diesel freight locomotives, because of higher speeds, the ability to move heavier tonnages, and their greater availability for work, handled as much war freight on the trunk lines west of Chicago as could have been handled by an additional newly built railroad from Chicago to the Pacific Coast using steam power alone. So effective was the war work performed by the Diesel freight locomotive that its manufacture commanded the highest priority on steel and production was continued at capacity throughout the war in spite of the acute shortage of both manpower and material.

For many years, it has been estimated that our proved oil reserves would be depleted in 12 years. While the use of petroleum products is at an all-time high, the discovery of new fields has more than kept pace with current demands so that proved reserves have been steadily increasing. If all the Diesel-electric locomotives in operation on the American railroads today were to be scrapped tomorrow, this 12-year reserve would be extended less than 45 days. Assuming 100 per cent railroad Dieselization as of today, the oil reserves would be depleted just seven months earlier.

Certainly, the demonstrated need of our country for an efficient transportation system, and the requirements of our railroads for sufficient earnings to keep them sound and healthy, warrant the use by our railroads of the most modern cost-saving tools and equipment which exist or can be developed. That the Diesel-electric locomotive is so regarded may best be shown by the fact that railroads which own the most productive coal mines for the supply of their coal-burning steam locomotives are among the leaders in the rate of replacement of their steam locomotives with Diesel power.

To insist that the railroads invest their money in coal-fired steam locomotives which were recognized as obsolete 10 years ago in the light of the foregoing conditions, is like asking the automobile companies, because of the shortage of steel and fuel, to return to the manufacture of carriages and wagons. That can not happen and will not happen, nor will it happen to the railroad industry, regardless of the temporary pressures which may be brought to bear upon it.

Diesel locomotive shop, Harrisburg, Pa. — General night view of the low bay section

ELECTRICAL SECTIONS HOLD EXHIBIT MEETING

Extent to which electrical equipment is now essential to railroad operation is shown by both exhibits and reports

The two Electrical Sections of the Association of American Railroads held their annual meetings in the Hotel Sherman, Chicago, September 8 and 9. The Railway Electric Supply Manufacturers Association exhibit, also in the Hotel Sherman, was open from September 8 to 10 inclusive. The Electrical Section, Engineering Division, had a one-day meeting on September 8, and the Electrical Section, Mechanical Division, held meetings on September 8 and 9. Both considered significant committee reports.

Electrical Section, Engineering Division Reports

The meeting of the engineering division section was called to order at 10 a.m. by Chairman K. H. Gordon, assistant electrical engineer of the Pennsylvania. He introduced Charles H. Mottier, chairman of the Engineering Division, A.A.R., and vice-president and chief engineer of the Illinois Central. Mr. Mottier congratulated the section on the excellence of the reports which had been prepared, giving special attention to the research work which has been done by the Committee on Electrolysis. He remarked that the Electrical Section is especially fortunate in that large electrical manufacturers do much basic research of direct benefit to the section.

He said that practically all activities of the Engineering Department now require electrical equipment and electrical services. As an example, he described snow melters now used by the Illinois Central. With reference to pumping plants, he said that his railroad had 56 automatic electric plants before the war, and that it now has a total of 103 electric pumping plants, and only 17 of other types—10 of which are steam and 7 Diesel.

Following Mr. Mottier, Chairman Gordon spoke briefly, and further emphasized the rapid expansion of the electrical industry. He called attention to the fact that the total output of the central station industry has reached one peak after another. The total weekly output exceeded five billion kw.-hr. last year, and this year has fallen below that mark only three times—these on holiday weeks. Speaking specifically of the railroads, he said that those in this country had on hand, or on order, between 11 and 12 million horsepower of Diesel-electric locomotives. This, he said equals about 1/6 of the total installed generating capacity of all utility and government-owned generating stations. In addition to this,

he said, something over three million horsepower of electric locomotives and cars are in service and the railroads have nearly two million horsepower of miscellaneous electrical apparatus.

Suspended Monorail System

A special feature of the meeting was a paper on the suspended monorail system of urban and interurban transportation which was presented by E. H. Anson, vice-president of Gibbs & Hill, Inc., consulting engineers, New York. An article on this system was published in the April, 1948, issue of Railway Mechanical Engineer. A discussion prepared by C. M. Davis, manager of the Transportation Engineering Division, General Electric Company, Schenectady, N. Y., was presented by C. C. Bailey, manager of the Transportation Division, General Electric Company. A prepared discussion was also presented by H. E. Dralle of Westinghouse Electric Corporation.

In response to a number of questions from the floor, Mr. Anson replied that he was not promoting this system, but was simply presenting an engineering discussion. In his opinion, the reason the monorail system has not been accepted since the original German installation is that many engineers have proposed impractical plans and given the public the impression that no system is practical. It is his opinion that a monorail system can be constructed for about 25 per cent of the cost of a subway, exclusive of rolling stock.

Power Supply

A trainman's hand lantern battery-tester has been in service several years. It provides a means for determining if a battery should be replaced, or continued in service. The report indicates that the use of such a tester is justified at locations where 17 or more batteries are issued per month.

A discussion of the question of electric power for camp cars showed a considerable divergence of practices on different railroads. All roads, however, appear to be in agreement on basic requirements of safety and dependability.

Electrolysis

The Committee on Electrolysis this year concludes its report of a study covering corrosion of metal parts in concrete enclosures placed underground. This study is concerned primarily with the effect of electric current draining into the ground from the metal through the concrete. It has found that various admixtures in the concrete do not provide effective protection. It also reports that alternating current does not cause deterioration either of the metal or the concrete. Its important finding is that a coating of asphalt over the concrete, or inside the form in which the concrete is poured, or on the metal before the concrete is poured, will effectively retard deterioration caused by such drainage.

Wire and Insulating Materials

The report of the Committee on Wire, Low Voltage Cable and Insulating Materials is concerned largely with specifications for rubber insulated wire and cable. On the subject of improved insulating materials, the report states that among the more promising are polyethylene and polyvinalchloride. Specifications for these materials are being prepared.

Electric Heating and Welding

Electric heaters for track switches, and electric heating to prevent the freezing of wet coal in bins are described in the report on Electric Heating and Welding.

Switch heaters have proved to be eminently satisfactory, and discussion of this subject was concerned with types of heating units and methods of application. Initial attempts to prevent the freezing of coal were satisfactory except in extreme cold weather, and insulated enclosures have now been designed to meet such conditions.

Corrosion-Resisting Materials

A report on corrosion-resisting materials, which was not available for printing before the meeting, was presented by L. B. Curtis, office engineer for the electrical engineer, Pennsylvania. The report deals with protective coatings for catenary construction. Four different coatings were tried and one, consisting of a priming coat of red oxide of lead and a supplementary coat made with cottonseed gum, proved to be the best of the four. Under test it failed after three years under direct influence of locomotive gases, but away from the gas it was satisfactory. It is recommended that it be replaced at two year intervals where locomotives stand.

Illumination

The first part of the report on illumination is given over to a description of new types of electric lamps. These include incandescent, fluorescent, and mercury types.

A major part of the report is devoted to the description of the lighting facilities in the Diesel locomotive shop of the Pennsylvania, at Harrisburg, Pa., and the lighting installation in the Cincinnati Union Terminal. The latter was described in the July 31 *Railway Age*. The Harrisburg installation, shown in the illustration, constitutes an innovation in enginehouse lighting. It furnishes well-distributed illumination in intensities ranging from 14 to 40 footcandles. In the discussion, it was said that while 40 footcandles seems like a lot of light, the cost and intricacy of the work done amply justify such an installation.

Electrical Section, Mechanical Division Reports

The meeting was conducted by Vice-Chairman L. S. Billau, electrical engineer of the Baltimore & Ohio, in the unavoidable absence of Chairman J. E. Gardner, electrical engineer equipment of the Chicago, Burlington & Quincy.

Automotive Rolling Stock

For two years, the committee has been studying the questions of reclamation and additives for Diesel lubricating oil.

This work is still in process. A new contribution was offered in the form of a method of lubricating oil analysis used by the Denver & Rio Grande Western, employing a spectrograph photometer. It is capable of detecting such foreign substances in the oil as copper and aluminum, and can be used to show improper operating conditions as well as bad or dirty oil.

The section of the report devoted to nickel-cadmium starting batteries states that their operating performance has been satisfactory under all conditions of outside temperature. Two of these batteries were placed in service in September, 1947, and two in January, 1948. Only two of them have required flushing since being placed in service, after a period of six months for one, and seven and one-half months for the other, indicating that the charging voltages have not resulted in excessive overcharging.

The only trouble experienced with one of the batteries was that, due to the collection of dirt and moisture at the base of the cells, they became corroded.

This situation was then corrected by improving the method for installing the batteries in the compartment. As these batteries belong in the class of long-life batteries, it will require several years of service before their merits can be demonstrated.

Batteries and battery charging regulators on Diesel locomotives are subject to wide temperature variations and, according to the report, it is desirable to have charging controls adjust themselves automatically to changes in temperature.

A considerable part of the report consists of descriptions of new equipment,

including Diesel-electric locomotives and a steam generator. A table is also included to cover electric lamps recommended for service on Diesel-electric locomotives.

Welding and Cutting

Spatter-proof lamps for welders have been tested, but apparently did not meet with the full approval of the committee.

Flame cutting by powdered flux injection is described as a satisfactory means for cutting stainless steel.

The manufacture of oxygen by a user is described and is dismissed with the statement that such a plant might fill a real need in some cases, where a combination of factors led to unusually high costs for oxygen in cylinders, or where supply problems are difficult.

Considerable attention is given manual and semi-automatic welding equipment using the hidden-arc deep flux process. It is said to be capable of using high current densities, and producing smooth, deeply penetrating, spatter-free welds.

On the subject of silver soldering, the report includes a list of silver brazing alloys now available, and gives the characteristics of each.

Concerning flash welding, it is stated that its chief advantage over the pressure-resistance process is that dissimilar metals, varying in individual fusing temperatures, may be welded.

A discussion of existing welding rules indicates that some which cover the restoration of worn parts are unclear or inconsistent, and should be revised.

A need also is expressed for adequate means for cutting stainless steel cars involved in a wreck.

Motors and Control

The report of the Committee on Motors and Control includes a valuable contribution in the form of a shop study covering all the requirements of Diesel locomotive motor and generator maintenance. This section of the report will be published in the November issue of Railway Mechanical Engineer. Included also in the report is a chart which provides an easy graphic method of determining the amount of capacitance required to make any desired improvement in circuit power factor.

Concerning copper-oxide and selenium rectifiers for battery charging, the report states that the two are about equally efficient, that the copper-oxide rectifiers have an overload capacity, that the selenium rectifiers have an advantage in size and weight, that the voltage rating of the copper-oxide rectifier is 6 to 8 volts per cell, while the selenium rating is 18 to 26 volts, and that the copper-oxide stacks cost 50 per cent more than the selenium stacks. It concludes that copper-oxide rectifiers should be used where a large amount of current and low voltage are required, and that selenium rectifiers should be used for relatively high voltages and low currents.

Vapor degreasers for cleaning traction motors offer advantages which make them appeal particularly to operators of electrical maintenance shops, but their application has been retarded by the fact that the cleaners used are solvents for some varnishes.

In the discussion, it was stated that all varnish companies now produce varnishes that are guaranteed not to be affected by vapor degreasing. It was also mentioned that on the Rock Island, one traction motor ran for 11 years and 4,000,000 miles before rewinding. It is the opinion of the shop operators that the mileage was probably increased rather than decreased by the degreaser.

It was also said that much may be done in a railroad electrical repair shop by the introduction of production methods common to industry. The importance of keeping accurate cost accounts was stressed.

Locomotive Equipment

The committee is studying the subject of sealed-beam headlights, and operating data are being collected for subsequent reports. One railroad also has under test an a.c. turbo-generator for supplying power for radio, headlights and train control. It is expected that service data on this application will be available for a subsequent report.

Car Electrical Equipment

Calculations were made by the committee to determine the electric load required for a diner in which the cooking is done electrically. The connected load including air conditioning, lighting, refrigeration, and cooking is detailed in a table and totals 67 kw.

The railroads have experienced some trouble due to faulty circuit breaker and fuse operation on cars with heavy electrical loads. This is due to elevated temperatures in the electrical lockers, and there is evidently need for improved locker ventilation.

Nickel-cadmium storage batteries are being tried for passenger cars. They have been tested, returned to the manufacturer for improvement, and reapplied. It is stated in the report that the evaporation of water in the cells appears to be less rapid than with other types of batteries.

Diesel engine generating sets for supplying all power requirements for passenger cars are now being given consideration. Four such sets have been built by four different manufacturers, and each is described in the report.

Caboose power for communication purposes is being supplied by axle-driven generators and by Diesel engine-driven generators. The report describes a third means now being tried. It consists of an a.c. generator driven by an air motor taking air from the train line.

Car Air Conditioning

The report describes an electrostatic filter which may be used either with or without the electric charge. A road using these filters reports that the filter paper is changed about every six days—somewhat more frequently on diners. Mention is also made of a centrifugal cleaning process for removing the larger particles of dirt.

A description is included of a ventilating fan for air distribution on non-air-conditioned cars. The section of the report which is concerned with temperature and humidity control describes several recently developed types.

Discussion of fire-resistant filters expressed the need for switches which would allow the blower to be shut off at some remote point, since some fires require that it be shut down, while others necessitate its continued operation.

The report states that 5-hp. hermetically sealed compressor units for air conditioning are now available, and that sealed units are giving satisfactory service in drinking water installations.

Radio and Communications

The report of the committee on the application of radio and communication systems to rolling stock consists of a detailed and careful study of specifications covering the installation of such equipment. They are essentially similar to those developed by the Communications Section, A. A. R., and will be adopted by the Electrical Section, with possible minor changes when they are approved by the Communications Section.

LIGHT WEIGHT AIR HOSE

A new Highflex air hose for small tools has been announced recently by the B. F. Goodrich Co., Akron, Ohio. Weighing less than half as much as the same size hose of ordinary design, it allows easier handling of line and tool. It can be used more effectively in close quarters, because it kinks less than hose of ordinary design, the company states. Working pressures with the new hose go as high as 250 lb. per sq. in.

Among other advantages of this new hose, as listed by the manufacturer, are the fact that it is oil proof, inside and out; that it will not swell to cut air pressure or volume, and will not flake off and cause the tool to jam or choke with rubber particles.

1948 CAPITAL OUTLAY TO EXCEED 1947 BY 49 PER CENT

Expenditures of $1,262 million indicated in I.C.C. "Monthly Comment"; advertising, freight rate increases, and truck competition also discussed

Gross capital expenditures by the Class I railroads in 1948 are expected to total $1,262,567,000, including $936,741,000 for equipment and $325,826,000 for road, an increase of 49 per cent over actual 1947 expenditures of $847,237,000, including $561,360,000 for equipment and $285,877,000 for road, the Interstate Commerce Commission's Bureau of Transport Economics and Statistics reports in the latest issue of its "Monthly Comment." The 1948 outlay, as estimated by the carriers, is about $32 million less than they estimated earlier this year (see *Railway Age* of April 24, page 58) though it does not include figures for four Class I roads which failed to supply estimates for this year's third and fourth quarters. For the first half of 1948 these same four carriers reported actual gross expenditures of $15 million.

The bureau's presentation shows that actual expenditures for additions and betterments during the first half of 1948 totaled $562,746,000, including $416,366,000 for equipment, as compared with $350,688,000 — of which $231,810,000 was for equipment — in the first half of 1947, an increase of 60.5 per cent. Estimates submitted by the carriers, the bureau states, indicate that the gross capital expenditures for the final six months of 1948 will total approximately $700 million.

The "Comment" notes also that the net railway operating income for the Class I roads totaled $195,800,000 in the first four months of 1948, as compared with $235,700,000 in the same period of 1947, despite the "large increases" in rates, fares and charges effective meanwhile. It adds, however, that the net railway operating income for May, June and July of this year totaled $320,400,000, an increase of 60.8 per cent over the $199,300,000 reported for the same 1947 period.

Freight Revenues Increase

The bureau reports that freight revenues for the roads as a whole in the three-months period ended with July were 19.7 per cent above the same 1947 period, although the volume of freight traffic, based on total carloadings, was approximately the same. The increases in freight rates authorized by the commission since July, 1947, in Ex Parte 166 accounted in "large measure" for the "substantial increase" in the 1948 revenue, the bureau said, and in this respect it went on to note that revenues from such traffic increased by 20 per cent in the Eastern district, 24.9 per cent in the Pocahontas region, 18.5 per cent in the Southern region and 18.9 per cent in the Western district.

In the same three-months period, the "Comment" continues, passenger revenues declined "somewhat" in each of the territories, while "other revenue" increased "substantially." Total operating revenues were up about 16 per cent in the Eastern district, Southern region and Western district and 22.3 per cent in the Pocahontas region, while operating expenses, taxes and equipment and joint facility rents combined were 11.7 higher, particularly in the Pocahontas region. Net railway operating income for May, June and July was augmented by tax credits totaling $37,381,972 resulting from the so-called Wolverton amendments to the Railroad Unemployment Insurance Act which reduced the unemployment tax retroactive to January 1.

With respect to Ex Parte 166, the bureau presents a compilation showing the estimated average percentage increase in freight rates for the major commodity groups. The average overall percentage increase is 23.3 per cent, ranging from 17.8 per cent for products of mines to 25 per cent for less-carload traffic. The percentage increases shown for mineral products are "slightly high," however, the bureau cautions, due to a commission order of August 13 reducing the maximum authorized increase on chrome and manganese ore.

Forwarder Traffic Sets Pace

The table reveals that the largest percentage increase in rates effective on Eastern district and Pocahontas region roads, 29.2 per cent, is on forwarder traffic, which, together with products of forest and less-carload traffic, also leads in the Southern region and is second only to animals and products in the Western district.

"Percentages shown for the Western district do not include the effect of the higher increase authorized on traffic in Zone I of Western Trunk-line territory, although the figures . . . do include the Zone I increase, which from a practical standpoint could not be developed by commodity classes and groups," the bureau states. "It should be emphasized that these percentages are overall averages for the commodity groups and areas concerned and that the increases on specific movements of individual commodities in a group will vary widely on both sides of the figure shown for the group. Moreover, the percentages are more nearly the effect of the rate increase authorizations on freight revenues (gross before adjustments for absorptions and corrections) within the various areas. For example, Eastern district freight revenues will be increased due to increases on both intraterritorial traffic and interterritorial traffic."

The bureau observes that the one per cent sample of carload waybills of the Class I roads received by the commission "sheds some light" on the revenue effect of the freight rate increases prior to the commission's final decision in Ex Parte 166. The average

revenue per short-line ton-mile for all commodities combined, it states, rose from 1.31 cents on the bills received in January to 1.45 cents for the bills received in June, an increase of 10.7 per cent.

The "Comment" further remarks that "substantial increases" in short-line revenue per ton-mile based on the bills received in June, as compared with those received in January, were shown for all major groups of commodities except that in the case of products of mines the 0.97 cents per ton-mile reported for the waybills received in June was only 0.05 cents higher than the revenue reported on those received in January. The bills received in January, the bureau adds, showed an average length of haul per ton (short-line) of 363 miles, while those received in June showed only 322 miles. At the same time, however, the average weight of the load reported in the bills received in June was 41.9 tons, as compared with 40.3 tons in the bills received in January.

Turning to less-carload traffic, the "Comment" notes that such movements originated on Class I roads in 1947 totaled 22,561,007 tons, or 7.5 per cent below the tonnage originated in 1946, and that originations of l.c.l. tonnage in the first quarter of 1948 were 18 per cent below those in the first three months of 1947. The tonnage last year, however, was higher than that of any other year since 1931.

The bureau pointed out that Association of American Railroads carloadings figures cannot be used in connection with tons originated, as reported to the commission, to determine the average loading of l.c.l. cars, because "the former figure includes each car movement from transfer points and thus counts much of the traffic more than once." It then goes on to report that the l.c.l. loading per car, which in World War II reached an average of 10.4 tons in November, 1942, has shown an "irregular but consistent" downward trend since October, 1946. In July of this year, the average load was 7.6 tons per car.

Advertising Expenditures Up

Also discussed in the "Comment" is the increase from $10,662,000 in 1940 to $16,512,000 in 1947 in total advertising expenses assignable to passenger services. Passenger revenues during that period rose from $416,897,000 to $963,322,000, or 131.1 per cent. The passenger service advertising expenses for the Class I roads as a whole were 1.71 per cent of their passenger revenues in 1947, as compared with 2.56 per cent in 1940.

A table accompanying the bureau's remarks shows that the ratios of passenger service advertising expenses to passenger revenues for 1940 ranged from 0.77 per cent in the case of the Southern to 8 per cent for the Great Northern, while the 1947 range was from 0.66 per cent in the case of the Illinois Central to 8.55 per cent for the Chesapeake & Ohio. The latter company spent $1,023,000 for such purposes in 1947, when its passenger revenue totaled $11,971,000, as compared with $201,000 in 1940, when its passenger revenue amounted to $4,324,000.

The table also shows that the Erie, Illinois Central, Seaboard Air Line, Chicago & North Western and Northern Pacific were among the roads which spent less for passenger advertising in 1947 than in 1940, despite increases in passenger revenues. The N. P. was the leader in this category, having expended $276,000 for such purposes in 1940, when its passenger revenues totaled $3,892,000, as compared with $86,000 in 1947, when its passenger revenues amounted to $7,563,000.

The growth in the use of Diesel-electric locomotives and the decline in railway accidents are among other topics discussed in the "Comment." With respect to the former, the bureau reports that, as of December 31, 1947, all classes of steam railways combined had 6,495 Diesel-electrics in service, as compared with 175 at the close of 1936. From December 31, 1941, to December 31, 1947, the use of Diesel-electrics increased by 4,978 or 328 per cent, the 1947 increase alone being 1,487 locomotives.

As for railway casualties, the number of persons killed in steam railway accidents of all kinds during the seven months ended with July was 2,095, as compared with 2,413 in the same period of 1947, while the number of persons injured dropped 11.2 per cent. A further breakdown of reports submitted to the bureau shows that the number of passengers killed in train accidents declined from 33 in the first seven months of 1947 to 17 in 1948, and that the number killed in train-service accidents (accidents which cause damage of less than $250) dropped from 20 to 13. Although the number of employees on duty killed decreased from 437 to 327, the number of fatalities to trespassers on railway property went up from 762 to 788. Fatalities to "other non-trespassers" dropped from 1,155 to 945.

Among other things, the bureau also reports that (1) tons of revenue freight carried in June increased 8.3 per cent above the June, 1947, level, and ton-miles increased 2.6 per cent; (2) the number of passengers carried in June decreased 10.1 per cent below the June, 1947, level, with passenger-miles declining 10.6 per cent; and (3) while the number of tons of revenue freight carried by the Class I roads in the first three months of 1948 decreased 3.4 per cent, as compared with the same 1947 period, the tons of revenue freight transported by intercity Class I motor carriers increased 15.6 per cent between the same periods.

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In figuring air line passenger-mileage rates, the air lines base it on the full price of the ticket. Cost of meals served on a trip has not been deducted, insofar as this writer can find out. The public buys its ticket with the understanding, as on a railroad, that he is paying the transportation cost alone. He is informed, if he asks the reservation clerk, that there is no charge for meals.

Someone is kidding someone.

—Max B. Cook, Scripps-Howard aviation editor, in New York World-Telegram. Reprinted by permission.

College and the Harvard Law School. Following graduation from the latter in 1928, he entered railroad service as an attorney with the Delaware & Hudson. He became assistant to general counsel

Daniel P. Loomis

in 1936 and assistant general counsel in 1939. Mr. Loomis resigned from the latter position on August 1, 1942, to accept the A. W. R. post.

Emergency Board Report

An emergency board which President Truman created on August 26 to investigate a dispute between the Pittsburgh & West Virginia and those of its employees who are represented by the Brotherhood of Railroad Trainmen reported to the White House on September 13 that the controversy between the parties was settled by mediation after the board had completed its public hearings. As reported in *Railway Age* of September 4, page 57, the dispute involved application of a National Railroad Adjustment Board decision which ordered the reinstatement of a trainman who had been dismissed by the carrier. The union had called a strike for 6. p.m. August 30.

Members of the board were J. W. Yeager, of Nebraska, chairman; J. T. McCann of New York; and T. J. Reynolds, of New Jersey.

Dividend-Paying Railroads — Or Government-owned Carriers?

Pointing out that "there are now no traffic men in England," Patrick B. McGinnis, senior partner of the New York Stock Exchange firm of McGinnis, Bampton & Sellger, and chairman of the board of the Norfolk Southern, told a meeting of the Chicago Traffic Club on September 21 that there is a very real danger of government ownership of the railroads when and if there is a definite down-turn in business, unless the earning power of the roads is greatly increased. "Since," said the speaker, "the railroads are the biggest business in the country, when they fail, all other businesses will follow—as they have in England."

Addressing himself directly to the shippers in the audience, the speaker asserted that, while it is only human instinct for each traffic manager to try to save pennies on shipping costs, progressive desertion of the railroads will leave shippers in the end with no transportation but their own—and private transportation is the most costly in the world.

Mr. McGinnis pointed out that in the 1920's, when railroads needed money for improvements, they went to the banks or sold stocks to the public. Railroad credit vanished in 1930 and, except for a short revival during the war, has never been restored. Despite record traffic, the postwar period has been among the poorest in the history of railroad finance.

As a result, virtually all fixed improvements made by railroads must be paid for by earnings. Not only are costs greatly increased, but improvements may be paid for only after 38 per cent of earnings are paid in income taxes. Payment for rolling stock out of earnings is similarly affected.

Mr. McGinnis declared, for example, that new freight cars, replacing cars depreciated on the basis of an original cost of $2,000, now cost $5,400, and if paid for out of earnings, actually cost almost $8,000. Yet, added Mr. McGinnis, government bureaus insist that railroads go out and buy as many cars as they can, as quickly as possible.

With regard to bureaus, he asserted that the Interstate Commerce Commission has virtual control of the railroads, yet has no responsibility for the results of its actions. Thus, he recalls, many of the bond issues which were defaulted in 1933, the owners of which received a few shares of common stock, had been approved five years previously by the I.C.C. itself. "Does the I.C.C. keep score, or does it attempt really to handle the railroad problem?"

"By sitting on the [Ex Parte 166] railroad freight case for 11 months," the speaker charged, "the I.C.C. pushed railroad credit back to what it had been in 1939." He contrasted this action with that of the Civil Aeronautics Board, which gave the air lines a rate raise "almost the day they asked for it," even when half the air lines didn't want it.

Mr. McGinnis stated that railroads face greater problems than do most other industries, because "railroads must go to the public for almost everything."

Maintaining that it is the function of executives to "foretell the future correctly," the speaker asserted, "I think railroad managements depend too much on railroad experience and not enough on the combined experience and knowledge of all industries."

Mr. McGinnis criticized railroad managements for their handling of cases before railroad wage boards. "Instead of a 28-day Eugene O'Neill performance, during which even the reporters fall asleep, the railroads should put on a good two-hour show to dramatize their position and win public agreement."

"In 1927," said the Norfolk Southern chairman, "it was generally believed that the railroads should save 20 cents of each dollar of income. In the light of this it is significant that the 24 largest railroads saved 18 cents in 1927, 14 cents in 1937, and only 8 cents in 1947, the greatest traffic year in history." The speaker went on to point out that this was not entirely a reflection on management, because the operating ratio of the railroads did not worsen to an equal extent, the difference being accounted for by increases in wages and payroll taxes. The railroads, he pointed out, until the recent reduction in rate, paid 8¾ per cent on a payroll which itself has doubled since 1939. He asked his audience if industrial traffic managers could maintain their own net income after an 8¾ per cent payroll tax.

Emergency Board on N.O.P.B.

President Truman on September 8 issued an executive order creating an emergency board to investigate a dispute between the New Orleans Public Belt and certain of its employees represented by the Brotherhood of Railroad Trainmen and the Brotherhood of Locomotive Firemen & Enginemen. The dispute involves a claim for retroactive pay by a locomotive fireman whose reinstatement to service was ordered by the National Railroad Adjustment Board.

Members of the emergency board, which launched its investigation of the controversy in New Orleans, La., this week, include H. H. Schwartz, former chairman of the National Mediation Board, chairman; A. L. Coffey, an attorney, of Tulsa, Okla.; and Floyd McGowan, an attorney, of Boerne, Tex.

Col. F. W. Okie, Union President, To Command Reserve Railroad Unit

The headquarters company for the Fourth Military Railway Service was formally activated as a unit of the Organized Reserve Corps at a dinner held in Washington, D. C., on September 10.

Colonel F. W. Okie, president of the Union, Pittsburgh, Pa., will command the unit, which is sponsored by the Association of American Railroads. During World War II, Colonel Okie commanded the 727th Railway Operating Battalion and was director of transportation, General Headquarters, Military Railway Service, at the time of his discharge.

Lieutenant Colonel W. T. Rice, of the Richmond, Fredericksburg & Potomac, and superintendent of the Potomac, Va., yards, is executive officer of the unit.

Activation of this headquarters company is another step toward fulfillment of the railroads' pledge to cooperate with the Transportation Corps in set-

revenue per short-line ton-mile for all commodities combined, it states, rose from 1.31 cents on the bills received in January to 1.45 cents for the bills received in June, an increase of 10.7 per cent.

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GENERAL NEWS

Great Lakes Shippers Criticize Rail Policies

Freight damage, unemployment act changes, O.D.T. orders attacked

Shippers of the Great Lakes area voiced a number of sharp criticisms of the railroads at the 70th quarterly meeting of the Great Lakes Regional Advisory Board in Cleveland, Ohio, on September 14 and 15.

They were especially critical, and firm, in their discussion of freight loss and damage, a subject which occupied an entire session. The belief was voiced that the concern of the railroads over loss of revenue freight, attributed by the carriers to recent freight rate increases, might be more wisely founded if the railroads realized that the true cause of much of the loss was rough handling of lading and the consequent resentment of shippers. "The lines are losing freight more because they are abusing it than because they are charging too much to handle it," was the gist of the remarks.

It was pointed out that the railroads' freight loss and damage bill last year was about $122,000,000 and that additional revenue from recent rate increases totaled only $67,400,000. "The railroads," speakers said, "insist that this additional revenue is not enough. Would $122 million be enough? If the claim bill could be cut 50 per cent the carriers would benefit an additional $61 million. That's something for everybody to think about."

"The railroads," another speaker told the meeting (which was conducted by H. E. Chapman, of Detroit, Mich., traffic manager of S. S. Kresge Company), "might spend less time outlining programs for us shippers to follow to reduce freight loss and damage and give more time to one that they themselves should follow to achieve the same end."

Rail Employees a "Favored Class"

Another criticism of railroad policy was expressed in the report of the board's Legislative Committee, through its chairman, Andrew H. Brown, traffic commissioner of the Cleveland Chamber of Commerce. He explained that the railroads had agreed to a compromise amendment to the railroad "Social Security" legislation whereby benefits to employees are substantially increased while payroll taxes for unemployment relief are reduced. "Such compromises," Mr. Brown asserted, "make for difficulty and embarrassment for boards such as ours. We have contended that railroad employees have been made a favored class at the expense of the public and some of the benefits of the system represent establishment of paternalism in the railroad industry which tends toward basic changes in the American system of private enterprise. In this particular instance the railroads have agreed to amendments which appear to us to have the effect of firmly establishing those features of the railroad retirement system to which we have objected, and to have cut the ground from under any efforts by us to help correct the inequities introduced into the system in recent years."

Mr. Brown's report, adopted unanimously, also recommended that the board maintain its previous position against passenger and freight excise taxes and work for their repeal by the next Congress.

The board also adopted the report of its railroad contact committee, headed by C. L. Jellinghaus, vice-president, Detroit district, of the New York Central, recommending: (1) Closer analysis of tonnage to develop opportunities for more overhead cars; (2) establishment of merchandise departments on railroads handling merchandise in considerable volume and which do not have such departments; (3) more extensive use of mechanical handling devices at freight stations; (4) greater use of motor trucks for local freight to way stations; (5) use of bulkheads or similar devices for safer carriage of freight and to expedite handling; (6) improvement of pick-up and delivery service; (7) faster handling in transit; (8) establishment of coordinated rail and highway service; (9) publication of merchandise car schedules for information of shippers; (10) modernization of freight stations; and (11) improved handling of records to minimize over and short freight.

Say O.D.T. Orders Cause Freight Loss

The board also approved the report of its car efficiency committee, which was devoted almost entirely to criticism of and advocating repeal of O.D.T. Orders 1-A and 18-A. Both, the report declared, were responsible for greatly reduced car efficiency and excessive freight claims. It recited experiences where heavy loading of canned goods, rubber products, paint, coffee and other commodities contributed to lengthy car delays or prohibited movement by rail because of customers' inability to accept large quantities of goods.

R. C. Waehner, traffic manager of Gerber Products Company, Fremont, Mich., voiced many shippers' attitude. "These orders, intended to increase car efficiency, have sadly reduced it," he declared. "Their continuance could lead to government ownership of railroads by diverting such vast quantities of freight as to cause them to seek government aid. In the case of canned goods rail shipments in the fourth quarter will be 30 per cent below those in the like quarter a year ago. Canned-goods buyers want 20,000-lb. loads; we can't ship to them in 65,000-lb. lots, as per O.D.T. order. We therefore load truck minima. Two years ago we considered truck loading above 300 mi. as out of the question. Today we load through to points in excess of 1,000 mi. via truck. Not only are we against the 65,000-lb. loads because they are impracticable but we want to avoid the excessive damage caused by heavy loading in multiple stop-off cars due to broken bulkheads and rough handling. In our case business is up 100 per cent over 1946 but rail shipments are sharply reduced, truck shipments are vastly increased and we are considering establishing our own truck operations."

Mr. Waehner urged the railroads to work vigorously for repeal of the O.D.T. orders. "If these orders remain," he predicted, "they will spell your doom. Don't duplicate your performance during the period of the advent of the truck lines by taking action only when it is too late."

W. E. Callahan, manager of the Open Car Section, Car Service Division, Association of American Railroads, reviewed 1948 carloadings to date, and the car supply situation.

In an informal address, James H. Aydelott, vice-president of the A. A. R., told board members that in the event of another national emergency the railroads would be better able to meet it than they were in 1939. "We have more freight cars, of larger capacities and in better condition," he said. "We have vastly superior power, both as to numbers and transportation output. Our plant is in much better condition. We have more passenger cars. And we have a personnel vastly more experienced in handling war's traffic demands than at the beginning of World War II."

The board chose Detroit in March, 1949, as the place and time of its next meeting and closed with a formal luncheon co-sponsored by the Traffic Club of Cleveland and the Cleveland Chamber of Commerce. The guest speaker was the Cleveland industrialist, James F. Lincoln.

Anti-Trust Violations Charged to R.E.A.

Government complaint assails agency's pacts with railroads

The Department of Justice has filed a complaint in the federal district court at Wilmington, Del., in which it asks that tribunal to find that the Railway Express Agency has violated the Sherman Anti-Trust Act by entering into contracts with the railroads under which the R. E. A., according to the department, has the "exclusive" right to conduct the express transportation business over the lines of each contracting road engaged in furnishing express service.

The complaint also alleges that the R. E. A., by executing and maintaining such contracts with the railroads, has since 1928 "attempted to monopolize and has monopolized" trade and commerce in the railroad express transportation business. The contracts, the D. of J. further charges, have had the effect, as "intended" by the R. E. A., of "preventing all others from engaging in the business of furnishing express transportation by railroad."

The department also has asked the court to "perpetually" enjoin the R. E. A., including its officers, directors, agents, representatives, successors, assignees and all other persons and corporations acting or claiming to act on its behalf, from "monopolizing or attempting to monopolize" the express business and from "entering into contracts, or claiming any rights thereunder, having the purpose or effects of continuing, reviving or renewing" violations of the Sherman Act.

The R. E. A., the complaint contends, should be required to take such action with regard to its properties and assets used in the express transportation business as may be necessary to "terminate and dissipate" the "effects" resulting from the alleged "monopoly and monopolization" and "more particularly . . . be required to cancel those provisions of its exclusive contracts which prevent signatories thereto from participating in the express business except through the medium of the R. E. A."

The complaint recalls that the R. E. A., the entire capital stock of which is owned by the railroads, commenced operations in 1929, a year after it was organized for the purpose of "taking over" the business of the American Railway Express Company.

"Uniform Contracts" Attacked

"In 1929," the complaint continues, "The . . . R. E. A. entered into uniform contracts with all of the railroads in the United States desirous of transporting express traffic over their lines, except those few roads which had contracts with the Southeastern Express Company. Under such uniform contracts, the R. E. A. was granted the exclusive right to conduct and transact the express transportation business over the lines of the contracting railroads, and each such railroad agreed that it would not for compensation knowingly transport express traffic on its passenger, express or mail trains independently of the provisions of its contract with R. E. A., except for certain commodities as to which exclusive or joint rights were reserved to the railroad, and except for the option of the railroad, with respect to carload shipments, to suspend the exclusive right of the R. E. A.

"The express transportation business to be carried on by rail by the R. E. A. under these agreements was defined as being such express transportation business as was carried on by R. E. A.'s predecessor, the American Railway Express Company, under the contract previously in effect between that company and individual railroads . . . which defined the express business . . . as including all matter commonly carried by passenger, express or mail trains (with certain exceptions, confined principally to baggage, mail and railroad supplies).

"These uniform contracts also established an arbitrary rate distinction between express traffic granted exclusively to R. E. A. and freight traffic reserved to the contracting railroads by providing that rates per 100 lb. made for express matter should not be less than twice the prevailing class freight rate, between the same points, and in no event less than twice the prevailing first class freight rate between the same points, unless otherwise ordered by federal or state commissions or concurred in by the railroad."

The complaint then went on to note that the so-called "uniform" contracts, which expire in 1954, also convey to the R. E. A. control over the routing of express traffic and that the R. E. A. has been authorized to divide on a "fair and equitable" basis the traffic among the various contracting lines over which such traffic might move. The department said that although the Interstate Commerce Commission has approved those provisions of the contracts calling for the distribution and pooling among and between the R. E. A. and the contracting railroads of revenues resulting from the movement of express traffic over such lines, the commission nevertheless has declined to pass upon the "propriety or legality" of any of the other provisions of the contracts.

After the R. E. A. acquired the assets and business of its sole competitor, Southeastern, in 1938, the complaint continued, the railroads which had formerly contracted with Southeastern for the movement of express traffic granted the R. E. A. the "exclusive" right to transport express traffic over their respective lines by "entering into contracts identical with the uniform contracts previously entered into between R. E. A. and all other railroads engaged in carrying express traffic."

"Upon the acquisition of the . . . Southeastern Express Company in 1938," the complaint states, "the . . . R. E. A. became and has since remained the sole concern in the United States engaged in the movement of express traffic by railroad. As a result of the . . . contracts, the . . . R. E. A. now has the exclusive right to transport express traffic over all of the railroads . . . presently engaged in the carrying of express traffic by rail."

Clark Cites "Main Objective"

Commenting on his department's complaint, Attorney General Tom C. Clark said that the "main objective" of the suit is the "elimination of these restrictive provisions which deny access to the railway express business to anyone other than the Railway Express Agency, Inc." "Since the great bulk

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NON-OP NEGOTIATIONS COLLAPSE; STRIKE VOTE ORDERED

Negotiations begun on September 8 between representatives of the nation's railroads and the heads of 16 non-operating unions over demands for a 25-cent hourly wage increase, a five-day work week without a reduction in pay and penalty pay for work performed on weekends and holidays, were concluded on September 17 without agreement between the parties. Circulation of strike ballots was started by the brotherhoods on the following day, and on September 20 the carriers asked the National Mediation Board to intervene in the dispute. The board then scheduled conciliatory talks with representatives of the respective parties at Chicago beginning on September 23.

Daniel P. Loomis, chairman of the western carriers' conference committee, stated that the demands of the unions were "too extravagant and unrealistic to warrant any prospect of a settlement through collective bargaining," and that the matter would have to "take its course under the Railway Labor Act." Mr. Loomis stated that "the demands of this group of railroad unions if granted in any substantial part would bankrupt the railroads, despite the rate increases they have been permitted to put into effect during the last two years, and the fact that they are hauling a greater volume of freight than ever before in peace times." The total cost of the non-ops' demands is estimated to be one and one-half billion dollars. Mr. Loomis said that the railroads are "unalterably opposed" to the unions' proposal for pay at time and one-half for work on Saturdays, and double-time on Sundays and holidays, with a minimum of 8 hr. pay for the work performed in any one day, and warned that if such penalty demands were imposed on the railroads, it would necessitate a drastic curtailment of railroad service on weekends and holidays.

Negotiations are continuing on the wage demands of the five operating unions representing enginemen, firemen, conductors, trainmen and switchmen (see *Railway Age* of September 11, page 83).

of express traffic is carried at least part way by rail," he added, "these exclusive contracts effectively prohibit the rise of any competition in this vital business." The commission, he said, has declined to pass upon the "propriety or legality" of the contract provisions under attack on the ground that they were outside its jurisdiction.

H. A. Bergson, assistant attorney general in charge of the D. of J.'s anti-trust division, said that the assailed contracts "foreclose competition" from other express companies and also prevent the railroads themselves from competing with the R. E. A. "The elimination of these restrictive provisions," he added, "will open the way for improvements and innovations in the freight business as well as improvements and better and less expensive service in the express business." One of the "most important" functions of the anti-trust division, he went on, is the removal of "unlawful contractual barriers to the emergence and development of competition."

As reported in *Railway Age* of May 15, page 208, Robert R. Young, chairman of the Chesapeake & Ohio and Alleghany Corporation, earlier this year recommended ultimate elimination of the "express agency cartel," which, he said, for nearly 25 years has stopped "railway progress." Mr. Young, who proposed the establishment of a pick-up service by the parcel post section of the Post Office Department to take over the small freight shipments from the R. E. A., has been publicly supported in his views by Commissioner J. H. Alldredge.

Box Car Supply Seen Taxed by Crop Output

Record wheat, corn movements face carriers, Gass reports

The September 1 crop report of the Department of Agriculture further substantiates previous estimates of a record yield of agricultural products and indicates that the out-turn of all crops in 1948 will be the largest in history, it is reported by Arthur H. Gass, chairman of the Association of American Railroads' Car Service Division, in his latest monthly analysis of "The National Transportation Situation." Highlighting the forecast, Mr. Gass states, is the "tremendous" 3,528,815,000 bushel corn corp—the greatest on record—and the second largest wheat crop of 1,284,995,000 bushels.

"Although the exceptional crop production is responsible for the greatest strain on the available box car supply, there are also very lively demands for box cars to protect the many other commodities which require this type of equipment," Mr. Gass continues. "Shortages are being reported in all parts of the country and it is not expected that there will be any relaxation of the requirements until the peak loading period has been passed late this fall."

Mr. Gass also reports that, because of further seasonal shifts in the demands for box cars, emphasis at the present time is being placed on building up the supply of such cars in the southeast, where heavy volumes of peanuts, cotton and tobacco require transportation, and also on those roads in the central, east and midwest faced with the necessity of furnishing cars to protect the "record smashing" corn and soybean crops. At the same time, however, he notes that the harvesting of the spring wheat crop in the northwest has passed the peak and that the movement from country stations to terminal markets and milling centers is "progressing satisfactorily," with the car supply on the northwest lines being "adequate" to permit successful handling of the balance of the crop.

As for other types of closed cars, the C.S.D. chairman expects that demands for stock cars to handle the anticipated heavy fall livestock movement will be met without difficulty; he also reports that there is an "adequate" supply of automobile cars to meet all current requirements.

Open Top Cars

With respect to hopper cars, Mr. Gass' presentation discloses that 9,097,021 such cars were loaded in the 35 weeks ended August 28, an increase of 2.1 per cent over the 8,912,592 cars loaded in the comparable 1947 period. "The record of hoppers loaded with all commodities," the C.S.D. chairman comments, "reflects increased loadings of ore, road building materials and limestone, as compared with last year, more than compensating for the slight decrease in coal originations." As for the latter product, the report shows that revenue coal loadings in the 36 weeks ended September 4 totaled 6,063,198 cars, as compared with 6,125,198 cars in the same period of 1947.

Mr. Gass goes on to report that coal production during recent weeks has been "somewhat ahead" of corresponding weeks of 1947, despite the closing of a "considerable number" of smaller stripping operations. At the same time, however, he notes that bituminous coal production to September 4 totaled 391,983,000 tons, as compared with 412,564,000 tons as of the same date last year, a decrease of 5 per cent. "Should this margin continue to the end of the year," he comments, "1948 production will approximate 590,000,000 tons, which, from the present outlook, should be ample to protect all requirements."

Mr. Gass also calls attention to the fact that total domestic stocks of bituminous coal and iron ore as of August 1 amounted to 58,139,000 net tons and 31,244,815 gross tons, respectively, as compared with 45,366,000 net tons of coal and 27,544,571 gross tons of iron ore, respectively, on August 1, 1947. "The objective of 52,000,000 tons to be shipped from Lake Erie ports should be realized by the end of the season," he adds. "On the Lake ore program of 86,000,000 tons, it now appears that under favorable weather conditions, about 84,000,000 tons will be shipped, with an outside chance of meeting these estimated requirements."

With respect to other types of open cars, the C.S.D. chairman notes that the gondola supply has been "very close," with shortages reported from practically all sections including the steel loading areas around Pittsburgh, Pa., Bethlehem and Youngstown, O. "This condition will, no doubt, continue for another month when easing off of road building and other construction will release some gondolas from sand and gravel trade," Mr. Gass asserts. "Gondola loadings at present are averaging around 146,000 cars per week, or nearly half of the total ownership of 307,544, which is an indication that the gondola cars in service are being handled promptly."

Mr. Gass also reports that (1) the demand for flat cars is "extremely heavy" in practically all sections of the country, with no indication for any relief in the near future; (2) while the demand for covered hoppers is steadily increasing, there will undoubtedly be a decline in requirements for such cars late this fall when construction activities are reduced because of cold weather; and (3) the refrigerator car supply during the past 30 days has been satisfactory, with the loading trend now upward.

Retirements Almost Equal New Cars

Turning to the equipment situation, Mr. Gass notes that the retirement of worn-out cars is continuing to run at a level "only slightly below" the new installations. "With 101,005 new freight cars placed in service during the past 12 months," he states, "the net gain in car ownership has been reduced by retirements to 18,745 cars, and due to an increase in bad order cars during the year, the net increase in serviceable ownership has been only slightly more than 12,000 cars. It is undoubtedly a fact, however, that the increase in high

RAILROAD FAIR CLOSES OCTOBER 3

The Railroad Fair at Chicago, originally scheduled to close on September 30, will continue through Sunday, October 3, Major Lenox R. Lohr, president, announced this week. The extension was brought about by requests from school authorities and business and professional organizations wishing to include fair visits as part of their programs, said Major Lohr. Some 2,200,000 persons had visited the fair through September 20, and it is expected that the attendance will top the 2½-million mark before its closing.

class cars in service has been much greater than these figures indicate."

Other phases of Mr. Gass' report show that the average turn-around time in August totaled 13.23 days, as compared with 13.88 days in July, and that detention of cars over the free time in August was 16.15 per cent, the lowest since February. "Reports show that in August there were 24,000 shippers-receivers holding cars daily over the free time," the C.S.D. chairman remarked, "and the total cars reported in Friday checks indicated that on an average these shippers-receivers were each excessively detaining three cars.

Canada to Set Up Royal Commission on Transportation

In answer to demands of seven maritime and prairie provinces and British Columbia, the Canadian government has announced that it will set up a Royal Commission on national transportation to deal with some phases of the railway freight rate problem.

Acting Prime Minister L. S. St. Laurent, in stating that the commission would be created "at a later date," declared its area of inquiry would be limited by law to matters not under exclusive jurisdiction of the Board of Transport Commissioners.

While that exclusion would normally extend to freight rates, and while the commission cannot deal with individual rates, it will, in this case, be able to determine the effects of rates generally on the various regions of Canada. Each of the seven provinces which urged creation of the commission has argued that the existing rate structure discriminates against its particular section.

The Board of Transport Commissioners has already been ordered by the government to hold a general investigation into the rate structure with a view to leveling off inequalities. This investigation is already in its preliminary stage. While the dividing line between the two investigations has not been made clear, the commission inquiry will not infringe on that of the board.

The purpose of the commission, Mr. St. Laurent said, would be to "examine and report upon questions of economic policy involved in the operation and maintenance of national transportation." It could, for example, take up such topics as the financial structures of the Canadian railways and the question of effecting economies by cooperation between the two big systems—matters which are beyond the scope of the transport board.

The Canadian cabinet has set September 27 and 28 for hearing an appeal from seven provinces against the board's order of March 30 granting the railways a 21 per cent freight rate increase.

It was announced in Ottawa this week that hearings on the railroads' application for an interim increase of 15 per cent and a permanent increase of 20 per cent will begin January 2, 1949.

July Truckloadings

Motor carriers reporting to the American Trucking Associations transported in July 2,765,313 tons of freight, a decrease of 6 per cent below the June total of 2,941,834 tons but an increase of 10.6 per cent over the 2,501,288 tons hauled in July, 1947. The A.T.A. index number, based on the 1938-40 average monthly tonnage of the reporting carriers, was 222.

The July figures, according to the A.T.A., are based on comparable reports from 307 carriers in 43 states. Carriers in the Eastern district reported a tonnage decrease of 8.1 per cent below June, but an increase of 9 per cent over July, 1947; carriers in the Southern region reported a decrease of 4.1 per cent below June, but an increase of 16 per cent over July, 1947; and carriers in the Western district reported a decrease of 3.4 per cent below June, but an increase of 11.2 per cent over July, 1947.

Would Shorten "Q" Freight Route Between Kansas City-St. Louis

Negotiations are under way between the Gulf, Mobile & Ohio and the Chicago, Burlington & Quincy whereby the latter would shorten its freight route between Kansas City, Mo., and St. Louis, by using part of the G. M. & O.'s line between those two points. The Burlington now uses a circuitous route via Hannibal, Mo., and Cameron, which is north of the route it proposes to use.

Commenting on the talks between the two roads, I. B. Tigrett, president of the G. M. & O., told the company's board of directors at its recent meeting that the Burlington would operate over the G. M. & O. from Rock Creek Junction (just outside of Kansas City) to Francis (just east of Mexico, Mo.), and use its own line from the latter point into St. Louis. As reported in the *Railway Age* of July 24, page 101, the Interstate Commerce Commission has denied a joint application by the Burlington and the Santa Fe for outright purchase of the Rock Creek Junction-Mexico segment from the G. M. & O., which would retain trackage rights only.

The proposed plan, said Mr. Tigrett, would involve extensive improvements in segments of the line, which would also greatly enhance the G. M. & O.'s position in solicitation of traffic from the Kansas City, St. Louis and Chicago gateways. Heavier rail would be laid and centralized traffic control would be installed on some of the more congested areas, he said.

Elect Loomis Chairman of Merged Western Railroad Associations

The Western Association of Railway Executives and the Association of Western Railways, both with headquarters at Chicago, have been consolidated under the name of the latter, and Daniel P. Loomis, formerly executive director of the A. W. R., has been elected chairman. The chairmanship of the W. A. R. E. has been vacant since the retirement on June 30 of C. E. Johnston, as reported in the *Railway Age* of July 3.

Mr. Loomis has been executive director of the A. W. R. since 1942, and is also chairman of the Western Carriers Conference Committee. He was born in Burlington, Vt., on April 6, 1905, and received his higher education at Union

NAME SHOWS FOR FIRST THREE A.A.R. BROADCASTS

The first in a series of musical comedy and operetta broadcasts sponsored by the Association of American Railroads (see *Railway Age* of September 11, page 79), will be "Good News," starring Dinah Shore and Jane Powell. The broadcast will be presented on October 4 over the network of the American Broadcasting Company from 8 to 8:45 p.m. Eastern, Mountain and Pacific standard time and from 7 to 7:45 p.m., Central standard time. "Anything Goes," starring Victor Moore and Margaret Whiting is scheduled for the broadcast of October 11, and "The Cat and the Fiddle," with Rise Stevens, will be given on October 18. The names of productions beyond that date have not been announced.

MAXIMUM OIL SUPPLY ESTIMATED AT 50 YEARS

Oil reserves in the United States have a maximum life of from 40 to 50 years, and "a pessimistic minimum of some 20 to 25 years," according to a report to the National Petroleum Association at Atlantic City, N. J., on September 16 by R. J. S. Pigott, chief engineer of the Gulf Research & Development Co., Pittsburgh, Pa.

The maximum figures include, Mr. Pigott said, "consideration of increased efficiency in use of petroleum fuel in engines. . . . Other economies of a quite dissimilar nature are likely to be forced by the economic situation when petroleum becomes scarcer and more expensive. There has never been any reason for burning oil or natural gas in a central station except that these were cheaper than coal at the locality.

"The present trend toward railroad Diesel engines instead of coal-fired steam can have an enormous effect on the supply of fuel oil for other purposes. The railroads now use 24 per cent of the coal produced and 8.5 per cent of the petroleum fuels, so that a complete substitution of oil for coal ultimately might mean 44 per cent of the total petroleum."

College and the Harvard Law School. Following graduation from the latter in 1928, he entered railroad service as an attorney with the Delaware & Hudson. He became assistant to general counsel

Daniel P. Loomis

in 1936 and assistant general counsel in 1939. Mr. Loomis resigned from the latter position on August 1, 1942, to accept the A. W. R. post.

Emergency Board Report

An emergency board which President Truman created on August 26 to investigate a dispute between the Pittsburgh & West Virginia and those of its employees who are represented by the Brotherhood of Railroad Trainmen reported to the White House on September 13 that the controversy between the parties was settled by mediation after the board had completed its public hearings. As reported in *Railway Age* of September 4, page 57, the dispute involved application of a National Railroad Adjustment Board decision which ordered the reinstatement of a trainman who had been dismissed by the carrier. The union had called a strike for 6. p.m. August 30.

Members of the board were J. W. Yeager, of Nebraska, chairman; J. T. McCann of New York; and T. J. Reynolds, of New Jersey.

Dividend-Paying Railroads — Or Government-owned Carriers?

Pointing out that "there are now no traffic men in England," Patrick B. McGinnis, senior partner of the New York Stock Exchange firm of McGinnis, Bampton & Sellger, and chairman of the board of the Norfolk Southern, told a meeting of the Chicago Traffic Club on September 21 that there is a very real danger of government ownership of the railroads when and if there is a definite down-turn in business, unless the earning power of the roads is greatly increased. "Since," said the speaker, "the railroads are the biggest business in the country, when they fail, all other businesses will follow—as they have in England."

Addressing himself directly to the shippers in the audience, the speaker asserted that, while it is only human instinct for each traffic manager to try to save pennies on shipping costs, progressive desertion of the railroads will leave shippers in the end with no transportation but their own—and private transportation is the most costly in the world.

Mr. McGinnis pointed out that in the 1920's, when railroads needed money for improvements, they went to the banks or sold stocks to the public. Railroad credit vanished in 1930 and, except for a short revival during the war, has never been restored. Despite record traffic, the postwar period has been among the poorest in the history of railroad finance.

As a result, virtually all fixed improvements made by railroads must be paid for by earnings. Not only are costs greatly increased, but improvements may be paid for only after 38 per cent of earnings are paid in income taxes. Payment for rolling stock out of earnings is similarly affected.

Mr. McGinnis declared, for example, that new freight cars, replacing cars depreciated on the basis of an original cost of $2,000, now cost $5,400, and if paid for out of earnings, actually cost almost $8,000. Yet, added Mr. McGinnis, government bureaus insist that railroads go out and buy as many cars as they can, as quickly as possible.

With regard to bureaus, he asserted that the Interstate Commerce Commission has virtual control of the railroads, yet has no responsibility for the results of its actions. Thus, he recalls, many of the bond issues which were defaulted in 1933, the owners of which received a few shares of common stock, had been approved five years previously by the I.C.C. itself. "Does the I.C.C. keep score, or does it attempt really to handle the railroad problem?"

"By sitting on the [Ex Parte 166] railroad freight case for 11 months," the speaker charged, "the I.C.C. pushed railroad credit back to what it had been in 1939." He contrasted this action with that of the Civil Aeronautics Board, which gave the air lines a rate raise "almost the day they asked for it," even when half the air lines didn't want it.

Mr. McGinnis stated that railroads face greater problems than do most other industries, because "railroads must go to the public for almost everything."

Maintaining that it is the function of executives to "foretell the future correctly," the speaker asserted, "I think railroad managements depend too much on railroad experience and not enough on the combined experience and knowledge of all industries."

Mr. McGinnis criticized railroad managements for their handling of cases before railroad wage boards. "Instead of a 28-day Eugene O'Neill performance, during which even the reporters fall asleep, the railroads should put on a good two-hour show to dramatize their position and win public agreement."

"In 1927," said the Norfolk Southern chairman, "it was generally believed that the railroads should save 20 cents of each dollar of income. In the light of this it is significant that the 24 largest railroads saved 18 cents in 1927, 14 cents in 1937, and only 8 cents in 1947, the greatest traffic year in history." The speaker went on to point out that this was not entirely a reflection on management, because the operating ratio of the railroads did not worsen to an equal extent, the difference being accounted for by increases in wages and payroll taxes. The railroads, he pointed out, until the recent reduction in rate, paid 8¾ per cent on a payroll which itself has doubled since 1939. He asked his audience if industrial traffic managers could maintain their own net income after an 8¾ per cent payroll tax.

Emergency Board on N.O.P.B.

President Truman on September 8 issued an executive order creating an emergency board to investigate a dispute between the New Orleans Public Belt and certain of its employees represented by the Brotherhood of Railroad Trainmen and the Brotherhood of Locomotive Firemen & Enginemen. The dispute involves a claim for retroactive pay by a locomotive fireman whose reinstatement to service was ordered by the National Railroad Adjustment Board.

Members of the emergency board, which launched its investigation of the controversy in New Orleans, La., this week, include H. H. Schwartz, former chairman of the National Mediation Board, chairman; A. L. Coffey, an attorney, of Tulsa, Okla.; and Floyd McGowan, an attorney, of Boerne, Tex.

Col. F. W. Okie, Union President, To Command Reserve Railroad Unit

The headquarters company for the Fourth Military Railway Service was formally activated as a unit of the Organized Reserve Corps at a dinner held in Washington, D. C., on September 10.

Colonel F. W. Okie, president of the Union, Pittsburgh, Pa., will command the unit, which is sponsored by the Association of American Railroads. During World War II, Colonel Okie commanded the 727th Railway Operating Battalion and was director of transportation, General Headquarters, Military Railway Service, at the time of his discharge.

Lieutenant Colonel W. T. Rice, of the Richmond, Fredericksburg & Potomac, and superintendent of the Potomac, Va., yards, is executive officer of the unit.

Activation of this headquarters company is another step toward fulfillment of the railroads' pledge to cooperate with the Transportation Corps in set-

Principals at the dinner activating the headquarters company of the Fourth Military Railway Service, from left to right, were: Lt. Col. Leo J. Meyer, unit instructor, Transportation Corps Reserve, Military District of Washington; Brig. Gen. Paul F. Yount, assistant chief of Army transportation; James H. Aydelott, vice-president of the Association of American Railroads; Col. Okie; William T. Faricy, president of the A. A. R.; Maj. Gen. F. A. Heileman, chief of transportation; Maj. Gen. Hobart R. Gay, commanding general, Military District of Washington; Col. Burton C. Andrus, assistant senior instructor, Military District of Washington, and Lt. Col. Rice

ting up affiliated units as part of the Army's program to form some 2,500 specialized units of the Organized Reserve Corps to have trained manpower available in event of another national emergency.

This company is one of three headquarters reserve units of the Military Railway Service. Its personnel will consist primarily of employees of southeastern roads. Headquarters representing eastern and western roads are located in New York and Chicago, respectively.

Equipment on Order

Class I railroads and private car lines had 117,815 new freight cars on order on September 1, compared with 113,680 on order September 1, 1947, according to the Association of American Railroads. Of the former total, Class I roads and railroad-owned private-controlled refrigerator car companies had 105,959 new freight cars on order, as compared with 105,261 on order on September 1, 1947.

Cars on order by Class I roads and railroad-owned private-controlled refrigerator car companies on September 1 included 25,205 box cars, of which 24,855 were plain and ventilated and 350 automobile box cars; 51,464 hopper cars, including 3,800 covered hoppers; 17,999 gondolas; 4,053 flat; 5,807 refrigerator; 591 stock and 840 miscellaneous freight cars. Of the total number of new freight cars which Class I roads had on order on September 1, 32,291 will be built in railroad shops and 73,668 in outside shops.

The Class I roads also had 1,626 locomotives on order on September 1, compared with 851 on order on September 1, 1947. The 1948 total included 116 steam and 1,510 Diesel-electric locomotives, compared with 40 steam, four electric and 807 Diesel-electrics on September 1, 1947.

Class I roads and railroad-owned private-controlled refrigerator car companies put 69,083 new freight cars in service in the first eight months of 1948, compared with 31,390 in the same 1947 period. Of the former total, 10,191 were installed by the railroads in August, the largest number for any month since April, 1942. In August, 1947, 5,216 new cars were put in service.

Those installed so far this year include 28,484 box cars, of which 27,420 were plain and ventilated and 1,064 automobile box cars; 28,229 hopper cars, including 1,455 covered hoppers; 6,949 gondolas; 4,840 refrigerator; 49 flat; 259 stock and 273 miscellaneous freight cars.

The Class I roads also put 847 new locomotives in service in the first eight months of 1948, of which 41 were steam, four electric and 802 Diesel-electric. New locomotives installed in the same period last year totaled 535, of which 63 were steam, two electric and 470 Diesel-electric.

The Class I roads and affiliated refrigerator car companies retired 52,771 freight cars in the first eight months of 1948, of which number 8,054 were retired in August. In the same 1947 period, 41,843 cars were retired.

Further Hearing on R. E. A. Rate Plea Completed by Commission

Further hearing in Ex Parte 163, wherein the Railway Express Agency is seeking an increase in rates, was completed this week before Division 2 of the Interstate Commerce Commission. The R.E.A.'s presentation was made by K. N. Merritt, vice-president-traffic, and W. A. Benson, vice-president-accounting, while J. P. Cole, a member of the staff of the Finance, Accounting, Taxation and Valuation Department of the Association of American Railroads, testified on behalf of the carriers.

The hearing was centered around the single scale of express rates for nationwide application which the R.E.A. formulated and submitted to the commission earlier this month in compliance with a September, 1947, order of the commission. The scale was described in *Railway Age* of September 11, page 76.

Although the single scale is virtually identical to the current Western scale, the R.E.A. is of the opinion that "neither the present rate structure nor the single nationwide scale will provide revenues sufficient to meet the cost of the service and adequately compensate the carriers that transport the business." The R.E.A., meanwhile, has asked the commission to investigate the refusal of the Public Service Commissions of Alabama and Mississippi to permit increases in intrastate express rates comparable to those which the federal regulatory agency approved for interstate application last year and in 1946.

I. C. Commissioner Patterson Recovering from Illness

Interstate Commerce Commissioner William J. Patterson was recovering this week from an illness suffered September 16 while he was on a train returning to Washington, D.C., from New York. Mr. Patterson had been in New York for the September 15 dinner at which the E. H. Harriman Memorial medals for railroad safety were awarded.

He was taken from the train to the Suburban Hospital, Bethesda, Md. It was stated at his office on September 22 that he was making rapid progress toward recovery.

Key Democratic Party Labor Post Given Harrison of Railway Clerks

Appointment of George Harrison, president of the Brotherhood of Railway & Steamship Clerks, as director of the labor division of the Democratic National Committee in the present campaign has been announced by Senator J. Howard McGrath, Democrat of Rhode Island, chairman of the committee. Mr. Harrison's headquarters will be located in New York.

Mr. Harrison is also vice-president of the American Federation of Labor. Commenting upon his appointment, Senator McGrath said: "The Democratic committee, the party and the nation are particularly fortunate to have the experienced leadership and energies of George Harrison enlisted in such an important key position. His forthrightness and capabilities are widely recognized beyond the ranks of organized labor, for his public service is long and noteworthy."

Press Representatives See A.A.R. Wheel-Balance Tests

Several runs in the road testing for a study of the riding qualities of railway passenger cars as affected by wheel balance, wheel-tread contour, and track gage, which has been under way between Coatesville, Pa., and Parkesburg on the Pennsylvania for the past month, were witnessed on September 17 by a party of press representatives from Philadelphia and New York.

This study is sponsored and conducted by the Mechanical and Engineering Divisions of the Association of American Railroads, with the co-operation of the Budd Company, Philadelphia, Pa., and the Pennsylvania. The special test train

The test crew at work in the Budd Research Car No. 1 during a test run on out-of-balance wheels under the auspices of the Association of American Railroads

consists of a G-G-1 electric locomotive, the Budd Research Car No. 1, and two passenger coaches, the latter being necessary for stability and braking power. Necessary shop work on the test wheels has been handled at the Wilmington, Del., car shops of the railroad. Balancing of the wheel and axle assemblies, as well as balance checking during machining operations, is being accomplished with the Bear Dy-Namic balancer furnished and operated by the Bear Manufacturing Company, Rock Island, Ill.

The purpose of the study is to improve the riding qualities of passenger-train equipment in so far as they are affected by certain wheel conditions, such as unbalance, eccentricity of tread, tread contour, and worn tread, and by the gage of track. Balance studies are being made with wheels which have been artificially balanced or unbalanced by adding weights and also with wheels which have been progressively machined at the rims, hubs, and plates, but which otherwise have not been balanced. Artificial unbalance has been carried as far as 10 lb. at the rim. Road tests and balance checks are made after each part of the machining program, so that the effect on riding quality may be recorded and the effect of machining evaluated.

Worn treads are being simulated by machining. Except for one series of tests, with wheels having cylindrical contours, all tests are made with conical trends. Fifteen wheel conditions have been tested.

A special test section of track has been prepared by the Pennsylvania over which all series are being run at speeds of 40 to 100 m.p.h. This section consists of one mile of track with the standard gage of 56½ in., one mile with a gage of 56⅜ in., and one mile with a gage of 56¼ in.

Accelerometers measure accelerations in three directions at both ends of the car, at a journal box and vertically on a seat. Electrical-movement gages measure the lateral and longitudinal movements of all wheels on one truck, the car-body roll and vertical displacement. A mechanical recorder indicates the swing of the truck and movements in the springs. The electrical instruments require two 12-channel and one 6-channel electronic amplifier units. Two 12-channel and one 24-channel oscillographs photographically record the indications continuously. Various other records, such as train speed, phase position of the wheel unbalance, and moving-picture records of truck action are obtained.

The instrumentation is furnished by the A. A. R. and the Budd Company.

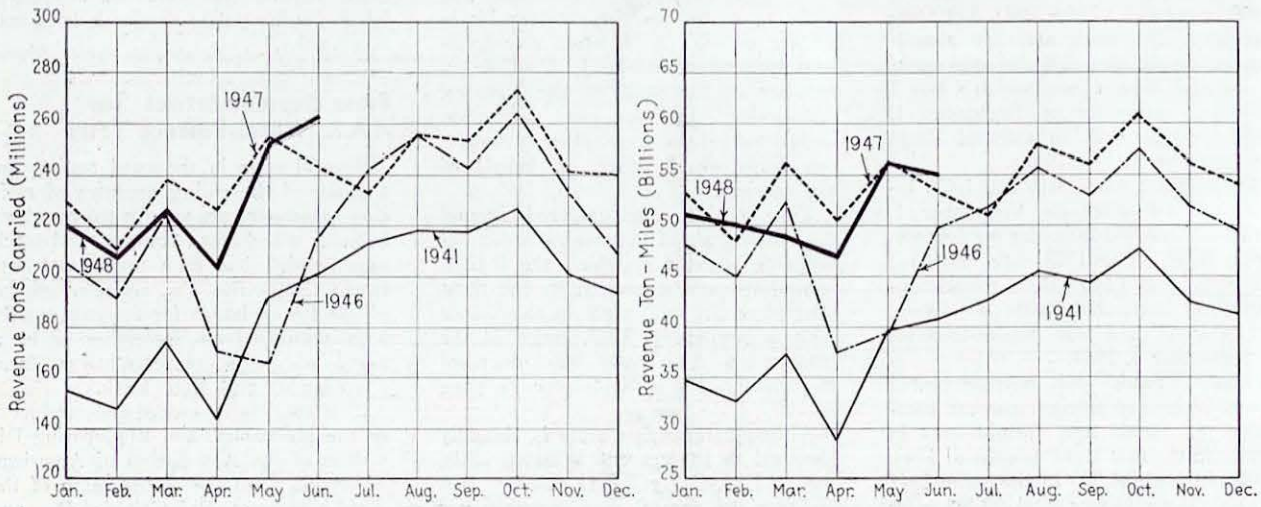
Freight Car Loadings

Loadings of revenue freight for the week ended September 18 totaled 909,733 cars, the Association of American Railroads announced on September 23. This was an increase of 121,033 cars, or 15.3 per cent, over the previous week, which included the Labor Day holiday; a decrease of 21,339 cars, or 2.3 per cent, below the corresponding week last year; and an increase of 10,681 cars, or 1.2 per cent, over the equivalent 1946 week.

Loadings of revenue freight for the week ended September 11 totaled 788,700 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings
For the Week Ended Saturday, September 11

District	1948	1947	1946
Eastern	137,322	166,126	162,838
Allegheny	167,869	180,119	192,660
Pocahontas	61,617	74,087	73,271
Southern	115,783	134,706	134,575
Northwestern	130,366	149,091	142,802
Cent. West.	114,665	147,830	137,098
Southwestern	61,078	70,420	63,925
Total Western Districts	306,109	367,341	343,825
Tot. All Rds.	788,700	922,379	907,169



Revenue Tons and Revenue Ton-Miles—1948 Compared with 1941, 1946, and 1947

News Department continued on next left-hand page

PROBABLY no railroad man need be told that every carload of C & O's record-breaking tonnage moved behind steam.

Nor will it surprise many that almost every ton made most of its miles behind Lima-built locomotives.

The significant point is this: Here is an example of what *modern* steam power can do. It is a special example, to be sure, but a concrete one. Those are real locomotives, making real miles, moving real tonnage—and lots of it. Almost to an engine, they are modern—modern from the rims up, from the pilots back.

Could any other type of power—including older steam locomotives—have equalled C & O's cost per ton-mile?

We doubt it. That's why we say there *is* a place for steam—and in this place, the modern steam locomotive can do, and is doing, an outstanding job.

It's worth thinking about.

C. & O. Sets All-Time Record, Ships 90 Million Tons of Coal

BY ROBERT J. BOWMAN

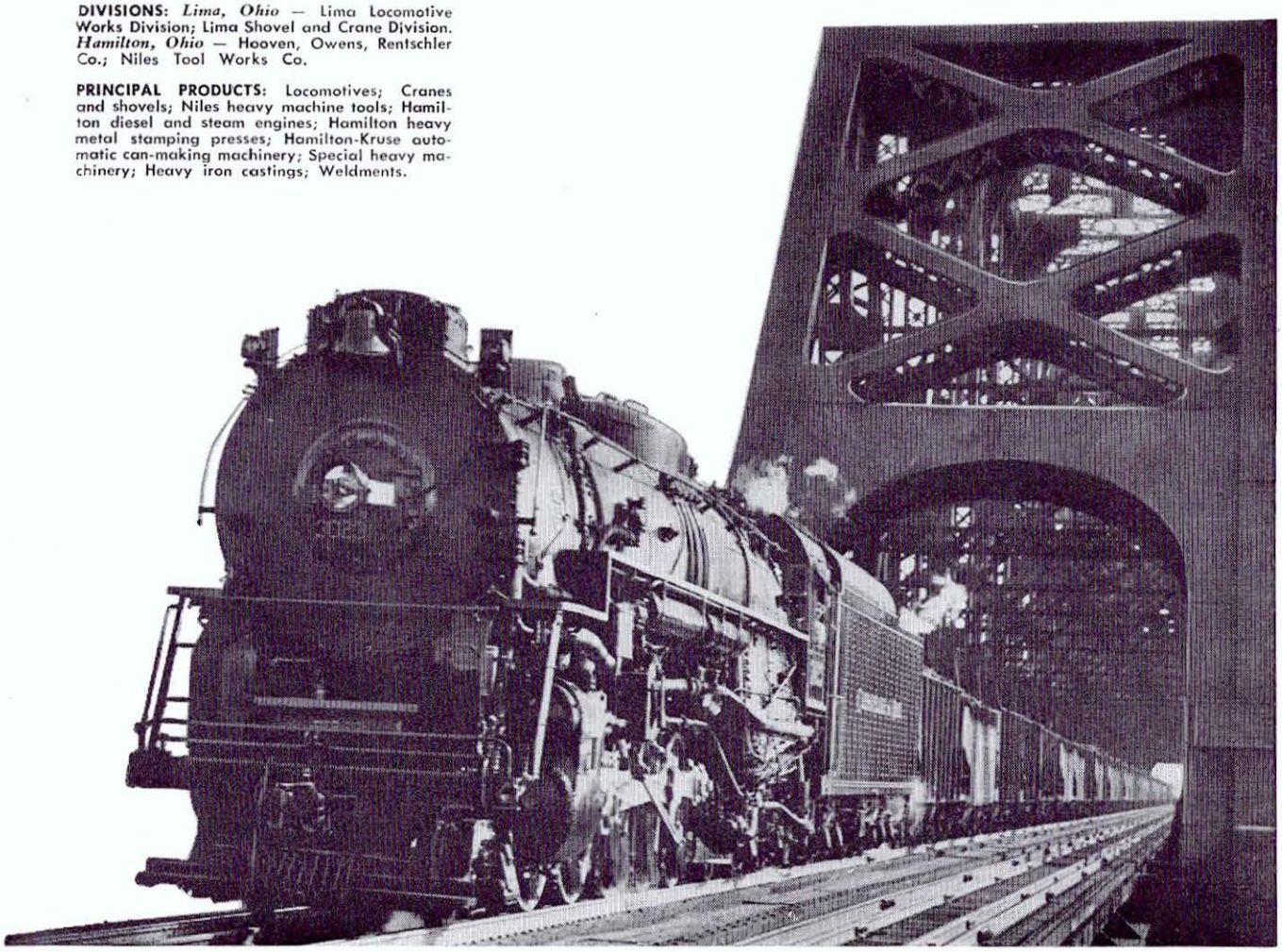
President Cheswake & ohio Railroad... Experiencing the greatest year of its history in 1947, the Chesapeake and Ohio Railway Co. anticipates an even larger volume of busi... 1948. In... record will be bettered with the completion, in the coming year, of two branch lines which will open up new coal areas. Man new mines, along with widespread mechanization of existing mines, should increase materially the coal tonnage

this is steam at work

LIMA HAMILTON CORPORATION

DIVISIONS: *Lima, Ohio* — Lima Locomotive Works Division; Lima Shovel and Crane Division. *Hamilton, Ohio* — Hooven, Owens, Rentschler Co.; Niles Tool Works Co.

PRINCIPAL PRODUCTS: Locomotives; Cranes and shovels; Niles heavy machine tools; Hamilton diesel and steam engines; Hamilton heavy metal stamping presses; Hamilton-Kruse automatic can-making machinery; Special heavy machinery; Heavy iron castings; Weldments.



Commodities:			
Grain and grain products	43,066	55,914	50,577
Livestock	11,870	18,792	13,690
Coal	158,570	186,898	193,210
Coke	13,940	13,015	13,979
Forest products	42,974	50,309	52,694
Ore	73,358	71,667	69,165
Mdse. l.c.l.	93,472	121,345	121,038
Miscellaneous	351,450	404,439	392,816
September 11	788,700	922,379	907,169
September 4	895,279	808,939	794,483
August 28	891,495	925,712	908,440
August 21	900,572	900,895	884,955
August 14	891,277	906,305	887,553
Cum. total, 37 wks.	30,196,024	31,236,646	28,602,805

Additional General News appears on pages 78 through 82.

SUPPLY TRADE

J. F. Ginna has been appointed assistant to the vice-president in charge of production of the **American Car & Foundry Co.** In his new position, Mr. Ginna, who has been associated with the company for over 30 years, will handle the scheduling and coordination of production. He served in the United States Navy in both world wars and was released from active duty in 1946 with the rank of captain.

J. F. Ginna

H. M. Church, retired general supervisor of bridges and buildings of the Chesapeake & Ohio, has established an office at 509 N. Boulevard, Richmond, Va., where in association with H. M. Church, Jr., he will conduct a consulting engineering and inspection service specializing in forest products and wood preservation.

Ridgway Fell Moon, special representative of the **Westinghouse Electric Corporation,** has retired. Mr. Moon was born in Morrisville, Pa., on October 15, 1882. He was graduated from Rutgers University in 1904 with a bachelor of science degree and, in the same year, joined Westinghouse as an assistant engineer in the Philadelphia, Pa., office. From 1908 to 1914 he was a railroad sales representative for the company, and in the latter year he was appointed industrial division manager at Philadelphia. He joined the Atlantic Elevator Company in 1923 as vice-president,

Ridgway Fell Moon

and held that position until 1929 when he returned to Westinghouse as manager of the Westinghouse Elevator Company, New York. Mr. Moon was appointed manager of the transportation division in Philadelphia in 1931 and was special representative at the time of his retirement.

The Baker industrial truck division of the **Baker-Raulang Company** has announced the appointment of **W. B. Landers,** 702 M & M building, Houston 2, Tex., as district sales representative in southeast Texas.

John F. Miller has been appointed sales manager of the machine tool and cutting tool divisions of the **Ex-Cell-O Corporation.**

CAR SERVICE

Revised I.C.C. Service Order No. 815-A, effective September 18, vacated Revised Service Order No. 815 which had required railroads to include Sundays and holidays in computing free time on cars held under load at Great Lakes ports with coal or coke for dumping into vessels.

I.C.C. Service Order No. 135, which increases demurrage charges on carload export traffic held at Mexican border points, has been modified by Amendment No. 7, which set back the expiration date from October 1 until April 1, 1949.

Revised I.C.C. Service Order No. 775, which maintains super-demurrage charges on freight cars, has been modified by Amendment No. 5 which set back the expiration date from October 1 until December 31.

The Car Service Division, Association of American Railroads, has cancelled Special Car Order No. 48 which required western roads to hold eastern box cars for loading thus prohibiting the return of such cars empty, and Special Car Order No. 49, which was issued to expedite the return home from the East of plain box cars of western ownership. The cancellations became effective September 15.

EQUIPMENT AND SUPPLIES

FREIGHT CARS

The **Baltimore & Ohio** has announced it will rebuild 2,000 coal cars in its own shops beginning October 1. It is estimated the rebuilt cars will be turned out at the rate of more than 100 a month.

The **Chicago, Rock Island & Pacific** has ordered 100 50-ton gondola cars from its own shops. The date of construction, currently scheduled for the first quarter of 1949, depends upon procurement of necessary materials.

The **Duluth, South Shore & Atlantic** has ordered 100 50-ton box cars and 100 50-ton gondola cars from the Pullman-Standard Car Manufacturing Company. Delivery of the box cars is expected next November and the gondola cars are scheduled for delivery in July, 1949. The inquiry for this equipment was reported in *Railway Age* of August 21, page 69.

The **Pittsburgh & West Virginia** has ordered 100 50-ton steel-sheathed, wood-lined box cars from the Pullman-Standard Car Manufacturing Company for delivery in November.

LOCOMOTIVES

The **Atchison, Topeka & Santa Fe** has ordered 21 Diesel-electric switching locomotives from the Baldwin Locomotive Works. Included in the order are 12 1,000-hp. locomotives and 9 750-hp. locomotives.

SIGNALING

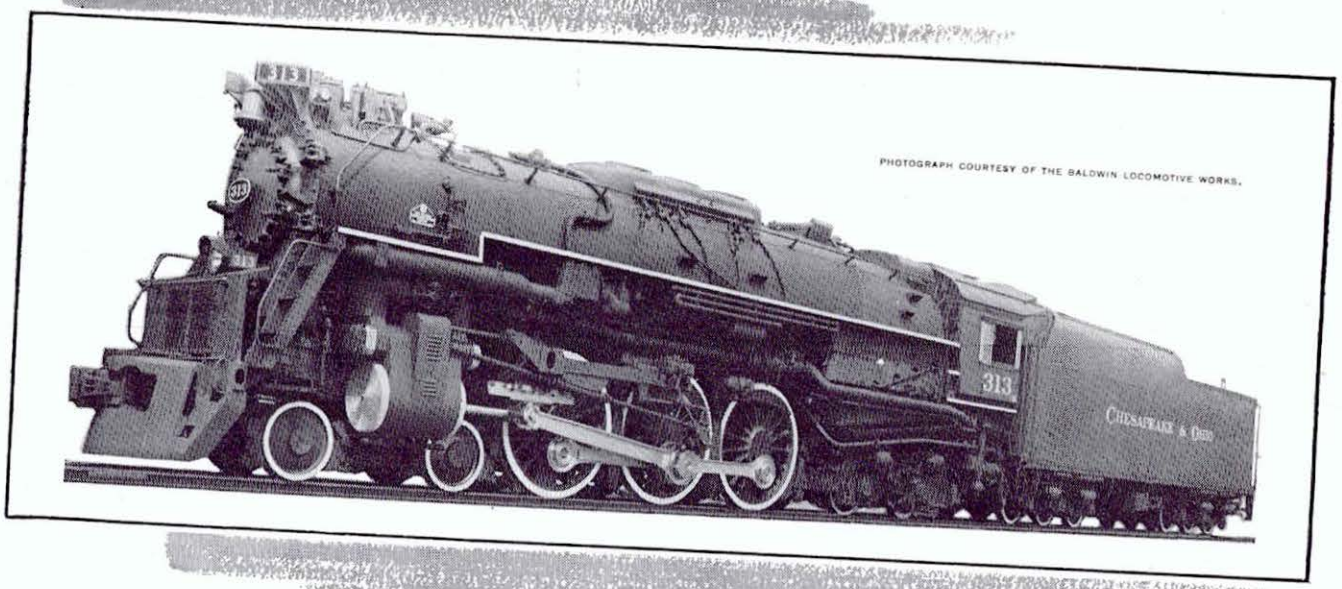
The **Illinois Central** has ordered 10 Type-E double-rail, all electric car retarder units, each 38 ft. 6 in. long, from the General Railway Signal Company. These retarder units will be used in the modernization program at South Markham yard, Chicago.

The **Chicago & North Western** has ordered equipment from the General Railway Signal Company for remote control of 3 switch machines and 11 signals at South Mayfair, Ill., at a crossing with the C. M. St. P. & P. The

News Department continued on next left-hand page

LATEST FIVE

for the C&O
with the Franklin System
of Steam Distribution



The five new Baldwin-built 4-6-4's have now entered service on the Chesapeake & Ohio. These locomotives are equipped with Boosters® and with the Franklin System of Steam Distribution, Type B.

The decision to use poppet valves on these new locomotives was based on the exceptional results obtained from the Franklin System of Steam Distribution on the five modernized L-1's of that road. Railroad men will be watching with interest the performance of these locomotives as compared with both the modernized engines and existing L-2's of similar design but without poppet valves.

This is one of five C & O 4-6-4's completely modernized in the last two years, including application of Boosters and the Franklin System of Steam Distribution, Type A.

These locomotives, designated as L-1's, are doing a remarkable job. They are used interchangeably with the bigger, heavier L-2's which have larger drivers and higher boiler pressure. Their maintenance cost has been low and their availability exceptionally high.

FRANKLIN RAILWAY SUPPLY COMPANY

A CORPORATION

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

control machine, to be located at Mayfair, will have 2 switch levers, 4 signal levers, and 18 track indication lights. Materials ordered include Types K and B relays and Model 5D dual-control electric switch machines.

ORGANIZATIONS

Representatives of 20 railroads interested in water-borne trade have formed the **Railroad Foreign Freight Agents Association of Chicago,** with Harold B. Bovee, foreign freight agent of the Pennsylvania, as president. The association proposes to promote a better understanding of foreign commerce and to develop closer relations between its members and those actually engaged in foreign trade. Other officers are: vice-president, T. L. Vogel, foreign freight traffic manager, Union Pacific; secretary, E. F. Howell, foreign freight agent, Grand Trunk Western; and treasurer, George J. Steinmiller, general foreign freight agent, Atchison, Topeka & Santa Fe.

Erle J. Zoll, Jr., commerce attorney, Illinois Central, was recently elected general chairman of the **Chicago Chapter of Interstate Commerce Commission Practitioners.** Other officers elected were A. J. Christiansen, secretary, Northern Illinois Coal Trade Association, vice-chairman, and C. O. Gustafson, general agent, Minneapolis & St. Louis, secretary and treasurer.

A meeting of the **Indianapolis Car Inspection Association** will be held at the Indianapolis, Ind., Union Station at 7 p.m., October 4. The program scheduled is a discussion of supplement #1 to the A.A.R. rules.

The next meeting of the **Eastern Car Foremen's Association** has been scheduled for October 8, 8 p.m., at the Engineering Societies Building, 29 West 39th street, New York. R. F. Flavin, foreman of the car department, Delaware & Hudson, will present a paper entitled "Train Yard and Interchange Inspection of Freight Equipment."

The **Toronto Railway Club** will hold its first meeting of the season on September 27, in the roof garden of the Royal York Hotel, Toronto, Ont., at 8:00 p.m. John Ness, of Imperial Oil, Limited, Toronto, will speak on "The Search Unending." His address will be illustrated by a sound film.

The **Car Foremen's Association of Omaha** will hold its next regular meeting at the Railroad Y.M.C.A. on October 7, at 6:30 p.m.

The **Pacific Coast Transportation Advisory Board,** meeting at Los Angeles, Cal., September 15 and 16, adopted resolutions favoring enlargement of the car building program to provide at least 12,000 new cars each month, and repeal of certain sections of California's obsolete excess crew law enacted in 1911. T. F. McCue, traffic manager, Crane Company, Los Angeles, presided at the meeting, at which Arthur H. Gass, chairman of the Car Service Division, Association of American Railroads, gave his views on "Present Trends" and the national transportation situation. The next meeting of the board will be at the Leamington Hotel, Oakland, Cal., March 16-17, 1949.

CONSTRUCTION

Atlantic Coast Line.—This road has authorized the following projects, the probable costs of which are shown in parentheses: Changing center passing tracks to outside tracks at Contentnesa, N. C. ($133,000), and at Selma ($113,000); and constructing concrete platforms at a Savannah, Ga., wharf ($90,360).

Chesapeake & Ohio.—The Interstate Commerce Commission has authorized this company to construct an extension from its Dawkins sub-division, near Carver, Ky., to a point on or near Spring fork of Quicksand creek, 15.7 miles. The line will provide rail transportation to an area containing undeveloped coal and timber resources, and is expected to protect C. & O. coal traffic against losses due to depletion of recoverable coal at mines being served by it in other areas. Cost of constructing the line is estimated at $3,977,700.

Grand Trunk Western.—This road has awarded the following contracts, the approximate amounts of which are shown in parentheses: To the Ketels Construction Company, Port Huron, Mich., for construction of a brick oil-house at the car shops, and locker and lunchroom for freighthouse employees, at Port Huron ($30,000); and to the Love Construction & Engineering Co., Muskegon, Mich., for construction of timber fender racks and renewal of several pile clusters at car ferry slip in Muskegon ($55,000).

Nashville, Chattanooga & St. Louis.—This road has awarded a contract to the Oman Construction Company, Nashville, Tenn., for grading and drainage in connection with a 4.1-mi. relocation project on its Atlanta division in Bartow County, Ga. The Virginia Bridge Company will fabricate and erect the superstructure for a bridge on the same relocation, involving 500 tons of structural steel. The project, which will eliminate 722 deg. of curvature and 1.65 mi. of track, is made necessary by the construction of the Allatoona dam and reservoir on the Etowah river by Army engineers. Water from the reservoir would flood the road's present line. The N. C. & St. L. has entered into a contract with the government whereby the railroad will perform the work and pay a sum incident to the removal of curvature, and the government will pay a sum equivalent to the relocation in kind. The new line must be open for use by July, 1949.

Long Island. This road has awarded a $3,547,250 contract to the T. & T. Contracting Co. for elimination of 12 grade crossings between Jamaica, N. Y., and the city line at Rosedale, Queens. The two tracks of the old southern branch from Jamaica to Laurelton and the four tracks east of Laurelton to Rosedale will be elevated upon an earth embankment and will be supported in part by retaining walls. The work is expected to require two years.

FINANCIAL

Alleghany Reports Changes In Rock Island, M. P. Holdings

The Alleghany Corporation has reported to the Securities and Exchange Commission that in August it purchased 10,900 shares of the common stock of the Chicago, Rock Island & Pacific and transferred 32,800 Rock Island common shares from its regular account to the voting trust agreement. After these transactions Alleghany held direct 4,700 Rock Island common shares and 245,053 of the road's common shares in the voting trust agreement. The total of 249,753 Rock Island common shares held by Alleghany is approximately 8.13 per cent of that road's authorized common stock. Earlier, Alleghany had reported to the S. E. C. that in July it sold $5,512,000 of Rock Island general income 4½ per cent bonds of 2019, after which its holdings of this issue amounted to $600.

Alleghany's holdings of Missouri Pacific System securities had been reduced by last June 30 to 499,200 shares of Missouri Pacific common stock. On December 31, 1947, M. P. System securities held by Alleghany totaled $16,217,000 face value of various bonds in addition to the common stock previously mentioned.

Other June 30 railroad holdings of Alleghany included $1,510,000 of Florida East Coast first and refunding 5 per cent mortgage bonds of 1974 and $3,129,224 of Seaboard Air Line general income 4½ per cent bonds of 2016 and voting trust certificates for 114,109 common shares and 10,473 preferred shares. The number of Chesapeake & Ohio common shares held on June 30 amounted to 528,834, an increase of 12,600 over the number held at the end of last year and approximately 6.64 per

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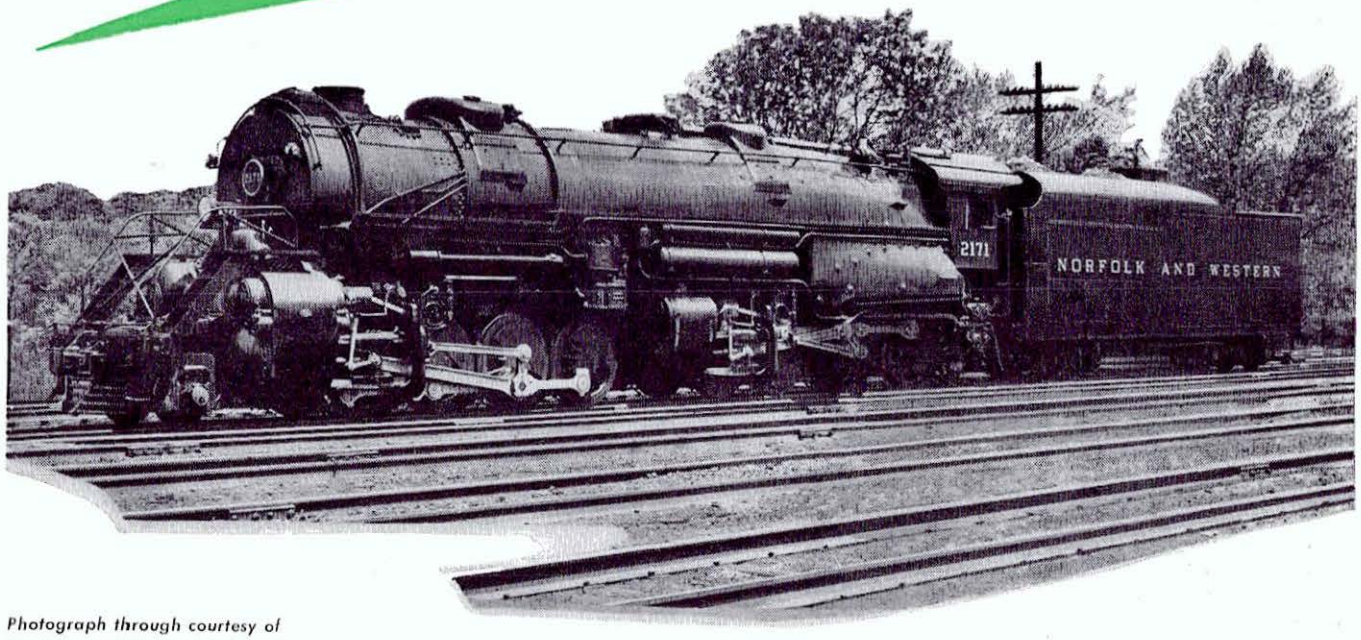
Norfolk and Western's new Mallets



Photograph through courtesy of Norfolk and Western Railway Company

have Security Circulators

The Norfolk and Western has done notable research and development work in increasing the efficiency of coal-burning steam motive power, and in its Class Y-6b, type 2-8-8-2 articulated locomotives, of which it is building seventeen in its shops at Roanoke, it is incorporating many outstandingly modern features.

One of these is the Security Circulator which provides ideal support for the brick arch and other important advantages. Each of these Class Y-6b, 961,500-pound compound Mallets has seven Circulators, six in the firebox and one in the combustion chamber.

SECURITY CIRCULATOR DIVISION

AMERICAN ARCH COMPANY INC.

NEW YORK • CHICAGO

cent of the outstanding total. Securities of the reorganized Central of Georgia held by Alleghany on August 13 included 31,077 series B preferred shares (about 1.8 per cent of the authorized total of such shares), and voting trust certificates for 1,562 series A preferred shares (approximately 1.5 per cent of the authorized total).

Akron, Canton & Youngstown.—*Extra Dividend.*—This road has declared an extra dividend of $2 a share on the common stock, payable on October 1 to stockholders of record on September 15.

Atlantic & Danville.—*Bond Modification.*—The Interstate Commerce Commission has permitted the Atlantic Coast Line to intervene in the proceeding wherein the Atlantic & Danville seeks commission authority under the so-called Mahaffie Act to modify or alter its first and second mortgage gold bonds, which were due July 1, and the mortgages pursuant to which those bonds were issued. As reported in *Railway Age* of July 17, page 57, the proposed bond modification is in connection with the A. & D.'s desire to revert to independent operation. The road is now operated by the Southern under a lease which expires July 1, 1949. In its petition to intervene, the A.C.L. told the commission that it has an "interest" in the proceedings because the Southern operates under a trackage rights agreement over that portion of the A.C.L. between Selma, N. C., and Pinners Point, Va., and handles A. & D. traffic over the A.C.L. between Pinners Point and Boone.

Boston & Maine.—*Stock Adjustment.*—The Interstate Commerce Commission has rescheduled for November 3 at the Hotel Lenox, Boston, Mass., a hearing before Examiner H. H. Kirby on this road's application for authority to modify, pursuant to the so-called Mahaffie Act, the eight classes of its outstanding capital stock by converting such stock into one class of new common stock. As reported in *Railway Age* of September 18, page 80, the hearing originally had been scheduled for November 2 at Washington, D. C. The application was outlined in detail in *Railway Age* of August 28, page 68.

Bessemer & Lake Erie.—*Merger.*—Approval by the Interstate Commerce Commission of the merger of the Pittsburg, Bessemer & Lake Erie and the Meadville, Conneaut Lake & Linesville into the Bessemer & Lake Erie is sought in an application which those roads have filed with the commission. The United States Steel Corp. owns the entire capital stock of the B.& L.E., which operates the P.B.& L.E. and the M.C.L.& L. under lease. The B.&L.E. owns the entire capital stock of the Meadville.

The applicants told the commission that the proposed merger will result in a savings of taxes and overhead expenses and will give corporate unity to properties which are now and have been for many years operated as a single system by means of lease arrangements.

In an accompanying application, the B.& L.E., as the surviving corporation, seeks commission authority to issue (1) 40,000 shares of $3 cumulative preferred stock, par value $50 per share, in exchange for a like amount of 6 per cent cumulative preferred stock of the P.B.& L.E.; (2) 200,000 shares of $1.50 cumulative preferred stock, par value $50 per share, in exchange for a like amount of P.B.& L.E. common stock having a par value of $50 per share; and (3) 10,000 shares of common stock having no nominal or par value for a like amount of the B.& L.E.'s common stock having a par value $50 per share.

The B.& L.E. also seeks authority to assume obligation for $11,873,000 of P.B.& L.E. first mortgage 2⅞ per cent series A bonds. Such bonds are presently guaranteed as to principal, interest and sinking fund payments by the B.& L.E.

Central of New Jersey.—*Debt Adjustment.*—The Interstate Commerce Commission has permitted the Central Hanover Bank & Trust Co. of New York, the City of Bayonne, N. J., and a protective committee for holders of C. of N. J. 4 per cent and 5 per cent general mortgage bonds to intervene in Finance Docket No. 16211 proceeding, wherein this road seeks commission authority to effect a voluntary plan of debt adjustment pursuant to the so-called Mahaffie Act. The road's application was outlined in *Railway Age* of August 7, page 51.

The bank told the commission that it is trustee under the C. of N. J.'s general mortgage of July 1, 1887, under which mortgage, it said, there are outstanding in the hands of the public $43,741,000 principal amount of general mortgage 5 per cent gold bonds and $4,990,000 principal amount of general mortgage 4 per cent bonds. All the bonds are due July 1, 1987. The C. of N. J., however, proposes to reduce the interest on such bonds to 3¼ per cent, effective January 1, 1949, and to cancel an additional $1,257,000 of the 5 per cent 100-year gold bonds now held in its treasury.

The city of Bayonne also has been permitted to intervene in Finance Docket No. 12620 proceeding, which pertains to the C. of N. J.'s reorganization under section 77 of the Bankruptcy Act. It described itself as a "general unsecured creditor" of the C. of N. J. in the amount of $100,000. Such a claim, it said, was allowed by a federal district court in 1942.

Kansas City Southern.—*Refunding.*—This road has filed a supplemental application wherein it has asked the Interstate Commerce Commission to approve payment by it to Kuhn, Loeb & Co. of $50,000 as compensation for services rendered by that firm in connection with a refunding program sanctioned by the commission in 1945.

The refunding program included the issue of $40,000,000 of series A first mortgage 30-year 4 per cent bonds which were sold by competitive bidding to Kuhn, Loeb, the only bidder. In approving the sale of the bonds, however, the commission's Division 4 questioned the propriety of having the firm which acted as financial adviser to the carrier in preparing its refinancing plan also head a group to bid for the bonds. It therefore approved the sale subject to the condition that the amount to be paid Kuhn, Loeb for its services as adviser be subject to the division's further consideration (see *Railway Age* of December 1, 1945, page 917).

The supplemental application advises the commission that there was an "unfortunate adverse turn" in the market at the time the bonds were offered for sale. If the Kuhn, Loeb bid of 98¼ had not been accepted, the application says, the company would have been forced to abandon its refinancing program or "take its chances on reoffering the securities at some later date." "In the case of the sale of the. . .bonds," the road commented, "all investment bankers evidencing any interest in the securities were given full opportunity to obtain. . .just as much information about the company and about the securities as was available to Kuhn, Loeb & Co."

The road also attached to its application correspondence from Kuhn, Loeb in which the latter stated in part that it had made no effort to organize a group to bid for the bonds until the K.C.S. publicly announced they were to be sold by competitive bidding.

Lackawanna & Wyoming Valley.—*Debt Adjustment.*—The Interstate Commerce Commission has set October 26 as a hearing date on this road's application for authority to effect a voluntary debt adjustment plan pursuant to the so-called Mahaffie Act. The hearing will be held at the Commission's Washington, D. C., offices, before Examiner H. H. Kirby. The road's application was reported in *Railway Age,* August 7, page 51.

Missouri-Kansas-Texas.—*Interest Payment.*—Directors of this road have authorized payment on October 1 of one coupon of the road's adjustment bonds. The coupon, which bears the date of April 1, 1941, represents interest at 5 per cent for the 6 months ended December 31, 1940.

Macon, Dublin & Savannah.—*Bond Modification.*—Examiner J. V. Walsh has recommended in a proposed report that the Interstate Commerce Commission authorize this company, a wholly-owned subsidiary of the Seaboard Air Line, to extend from January 1 to January 1, 1972, the maturity date of $1,733,000 of its first-mortgage 40-year 5 per cent bonds, and to modify in

News Department continued on next left-hand page

Up-to-date

CONTROL of Steam Locomotives

AIR is used as a dependable control for stopping trains.

AIR is now used for dependable and instant control of locomotives, through the medium of the THROTTLE MASTER. It provides both instant control of slipping drivers - and ease of operation.

An application would be convincing.

Particulars on request.

AMERICAN THROTTLE COMPANY
INCORPORATED
60 East 42nd Street, New York 17, N. Y.
122 S. Michigan Avenue, Chicago 3, Ill.

A-1911

other respects the mortgage pursuant to which those bonds were issued. The road's request was filed pursuant to the so-called Mahaffie Act, and the examiner's report marks the first action toward authorizing a capital adjustment under that law.

Tennessee Central.—*Annual Report.*—Operating revenues of this road in 1947 were $4,253,442, compared with $3,639,012 in the preceding year. Operating expenses were $3,843,480, compared with $3,381,217. The net deficit was $400,999, compared with a net deficit of $505,472. Current assets at the end of the year amounted to $986,590, compared with $848,616. Current liabilities totaled $1,301,264, compared with $1,082,238. Long term debt was $5,421,221, compared with $5,244,165.

Reading.—*Merger.*—Approval by the Interstate Commerce Commission of the merger of the Chestnut Hill into the Reading is sought in an application which has been filed jointly by those two roads. The Reading has operated the C.H. under lease since 1870 and owns 3,261 shares of its 3,913 shares of outstanding capital stock. Approval of the merger, the applicants said, will simplify the Reading's corporate structure, effect "some savings" through elimination of separate corporate functions of the C.H., and result in tax savings.

New Securities

Application has been filed with the Interstate Commerce Commission by:

Chicago, Milwaukee, St. Paul & Pacific.—To assume liability for $6,600,000 of series FF equipment trust certificates, the proceeds of which would be applied toward the cost of 2,600 freight cars, including 1,000 50-ton steel box cars at $3,900 each, and 1,000 50-ton composite-type gondola cars, at $2,580 each. The equipment will be built in the applicant's own shops. The certificates would be dated October 1, sold on the basis of competitive bidding and mature in 20 semi-annual installments of $330,000, starting April 1, 1949.

Chesapeake Western.—For authority to exchange $600,000 of its 4 per cent gold bonds, due October 1, 1951, for a like amount of 3 per cent refunding bonds. The new bonds, which would bear additional contingent interest up to 3 per cent when declared payable by the road's directors, would be dated October 15 and due October 15, 1988. The applicant told the commission it will be unable to meet payment of the 4 per cent bonds at their maturity in 1951. The proposed refinancing it said, will reduce annual fixed interest obligations from $24,000 to $18,000.

Division 4 of the I.C.C. has **authorized:**

Wheeling & Lake Erie.—To assume liability for $1,600,000 of series Q equipment trust certificates, proceeds of which will be applied toward the purchase of 500 steel 50-ton high-side gondola cars, as reported in *Railway Age* of August 28, page 68. The certificates will be dated September 15 and will mature in 20 semi-annual installments of $80,000, starting March 15, 1949. The report also approves a selling price of 99.3819 with a 2⅛ per cent interest rate, the bid of Halsey, Stuart & Co., on which basis the average annual cost will be approximately 2.25 per cent. The certificates were reoffered to the public at prices yielding from 1.35 per cent to 2.4 per cent, according to maturity.

Dividends Declared

Akron, Canton & Youngstown, common, 50¢, semi-annually; extra, $2.00; 5% preferred, $2.50, semi-annually, all payable October 1 to holders of record September 15.

Carolina, Clinchfield & Ohio, $1.25, quarterly, payable October 20 to holders of record October 5.

Chicago, Rock Island & Pacific, 75¢, quarterly, payable September 30 to holders of record September 23.

New London Northern, $1.75, quarterly, payable October 1 to holders of record September 15.

Savannah & Atlanta, preferred, $1.25, quarterly, payable October 1 to holders of record September 15.

Texas & Pacific,—$1.00, payable September 30 to holders of record September 27.

Average Prices Stocks and Bonds

	Sept. 22	Last week	Last year
Average price of 20 representative railway stocks	48.25	48.89	46.67
Average price of 20 representative railway bonds	88.58	89.32	88.15

RAILWAY OFFICERS

EXECUTIVE

M. H. McEwen, western traffic manager of the Chicago, Milwaukee, St. Paul & Pacific, at Seattle, Wash., has been appointed assistant to vice-president—traffic at that point. **James O. McIlyar,** assistant freight traffic manager at Chicago, has been appointed western traffic manager at Seattle.

Paul W. Johnston, vice-president (personnel) of the Erie at Cleveland, Ohio, has been elected executive vice-president and a director.

Fred C. Berghaus, vice-president and executive assistant of the Chicago, Indianapolis & Louisville, at Chicago, has been appointed vice-president—operation, with headquarters at Lafayette, Ind. He succeeds **Frank E. Cheshire,** who has been transferred to Chicago and will be assigned such duties as may be designated by the president. A photograph of Mr. Berghaus and a sketch of his railroad career appeared in the *Railway Age* of June 26, page 140, in connection with his promotion to vice-president and executive assistant.

Alfred L. Hammell, vice-president of the Central operating departments of the Railway Express Agency at Chicago, has been appointed executive vice-president, a newly created position, with headquarters at New York. **Whitworth M. Smith,** vice-president and general manager of the Mississippi Valley department at St. Louis, Mo., has been appointed Eastern operating vice-president at New York, succeeding **Clifford R. Graham,** who will retire in the near future after 53 years of continuous service. **William J. MacGreevy,** who has been on the staffs of the operating vice-president at Chicago and San Francisco, Cal., has been promoted to operating vice-president of the Southern departments at Atlanta, Ga., succeeding **W. W. Owens,** who will retire after 56 years of service. **John R. Marra,** general manager of the Northeastern department at Boston, Mass., has been promoted to vice-president of the Western departments at San Francisco, in place of **Walter Reese,** who has been appointed vice-president of the Central departments at Chicago, succeeding Mr. Hammell. The foregoing changes will all become effective on October 1. Until their actual retirements Mr. Graham and Mr. Owen will continue as vice-presidents on special assignment.

Herbert W. Ward, executive vice-president of the Illinois Terminal at St. Louis, Mo., was elected president of that company on September 22, succeeding **Andrew P. Titus,** whose intention to retire was first reported in the *Railway Age* of May 22. Mr. Ward was formerly vice-president in charge of traffic of the Minneapolis & St. Louis, having resigned from that post in May of this year to join the Illinois Terminal.

FINANCIAL, LEGAL and ACCOUNTING

Arthur E. Shave, local treasurer of the Canadian Pacific, at Vancouver, B. C., has retired after 40 years of service with the C. P. He is succeeded by **R. Mallaby,** assistant treasurer at Vancouver, who in turn is succeeded by **W. E. Goodman. George Mitchell** has been promoted to assistant local treasurer at Winnipeg, Man.

OPERATING

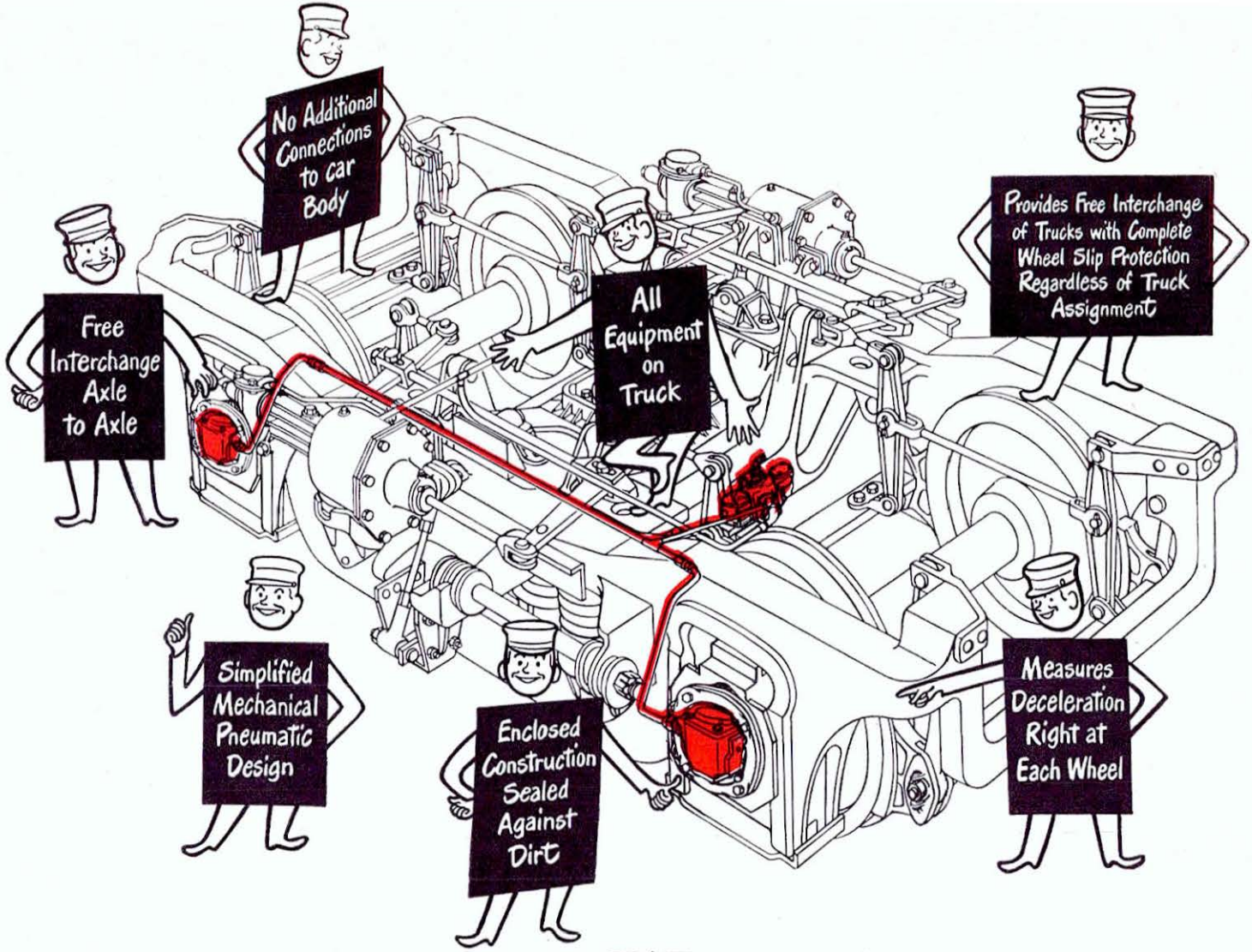
J. D. Houde, chief dispatcher of the Cochrane division of the Canadian National, has been appointed assistant superintendent of that division, with headquarters at Senneterre, Que.

L. O. Grashoff has been appointed supervisor of stations for the Kansas City Southern at Shreveport, La.

A. MacMaster, superintendent of transportation of the Railway Express Agency, at San Francisco, Cal., has been appointed acting superintendent of the firm's Los Angeles division, with headquarters at Los Angeles, Cal. He succeeds **R. R. Ripley,** who has been granted a leave of absence.

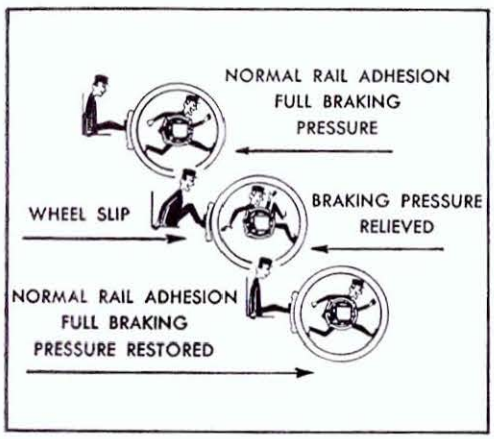
G. J. Mulick, special representative to operating vice-president, Chicago, Rock Island & Pacific, at Chicago, has been

News Department continued on next left-hand page


No Additional Connections to car Body
Free Interchange Axle to Axle
All Equipment on Truck
Provides Free Interchange of Trucks with Complete Wheel Slip Protection Regardless of Truck Assignment
Simplified Mechanical Pneumatic Design
Enclosed Construction Sealed Against Dirt
Measures Deceleration Right at Each Wheel

the figures tell the story of Westinghouse

AP DECELOSTAT ADVANTAGES



Millions of miles of travel without sliding a wheel have been reported by railroads with Westinghouse AP Mechanical-Pneumatic Decelostat installations. The dollar value of this performance, in terms of reduced wear on equipment and maintenance of maximum braking efficiency under all rail conditions, makes it an impressive return on investment.

As all equipment is on the truck, and no additional connections to car body, free assignment of trucks is possible. Enclosed, dirt-sealed construction enhances integrity of operation. Simplified mechanical-pneumatic design acts positively—relieves brake pressure at the first hint of wheel slip.

Ask for Bulletin DL2461-1. It gives the complete story.

Brakes are Basic to Railroad Progress

Westinghouse Air Brake Co.

WILMERDING, PA.

appointed superintendent of the road's Panhandle division, with headquarters at Liberal, Kan. Mr. Mulick succeeds **G. R. Huntoon,** who has been transferred to Fairbury, Neb.

H. F. Lee, trainmaster of the St. Louis-San Francisco at Tulsa, Okla., has been appointed assistant to general superintendent of transportation, with headquarters at Springfield, Mo.

W. P. Wilson, superintendent of the Chicago, Burlington & Quincy at McCook, Neb., will become general superintendent of the road's Western district at Lincoln, Neb., on October 1, succeeding **Frederick B. Whitman,** who will join the Western Pacific on that date as executive vice president at San Francisco, Cal.

E. M. Blake, superintendent way and structures of the Hudson & Manhattan at New York, has been appointed general superintendent of that road, with the same headquarters, replacing **J. C. Van Gieson,** general superintendent, and **M. J. O'Connell,** assistant general superintendent. The title of assistant general superintendent has been abolished.

Albert R. Nice, Jr., whose appointment as superintendent of the Shamokin division of the Reading at Tamaqua, Pa., was announced in the *Railway Age* of September 18, entered the service of the Reading in 1917 as a telephone boy, becoming a clerk the following year. In 1922 he was named yardmaster at Wayne Junction, Pa., and became general yardmaster at West Falls, Pa., in 1941, advancing to assistant trainmaster the same year. In 1945 Mr. Nice was promoted to terminal trainmaster at Philadelphia, Pa., and in 1947 he became assistant superintendent of the Philadelphia division, subsequently transferring to the Reading division. Mr. Nice served as assistant superintendent of the Shamokin division for a few weeks before his promotion to superintendent of that division.

Albert R. Nice, Jr.

TRAFFIC

J. W. Sandifer has been appointed supervisor of passenger service, Kansas City Southern, with headquarters at Shreveport, La.

John W. Stewart, commercial coal agent of the Reading, has been appointed coal freight agent at Philadelphia, Pa., succeeding **R. S. Wayne,** who has been assigned to other duties.

R. M. Hoban, commercial agent of the St. Louis Southwestern, at Little Rock, Ark., has been appointed division freight agent at that point, succeeding **A. H. Merck,** who has retired after 38 years of service with the Cotton Belt.

William S. Porter, general western agent for the Norfolk Southern at Chicago, will join the Chicago & Eastern Illinois at Nashville, Tenn., as general agent on October 1. He will succeed **Richard C. Wharton,** who is retiring after 27 years of service.

MECHANICAL

W. E. Humphreys has been appointed master mechanic of the Chesapeake & Ohio at Ashland, Ky., succeeding **F. R. Butler,** retired.

J. J. Dailey, assistant superintendent of motive power of the Toledo, Peoria & Western at Peoria, Ill., has been appointed superintendent of motive power at that point. He succeeds **R. B. Green,** who has retired at his own request, following 18 years of service with the road. The position of assistant superintendent of motive power has been abolished.

ENGINEERING and SIGNALING

The following changes have taken place in the engineering department of the Chicago & North Western System: **J. L. Perrier,** office engineer at Chicago, appointed principal assistant engineer in the chief engineer's office at that point; **L. J. Deno,** assistant general bridge inspector at Chicago, appointed office engineer in the chief engineer's office; **J. P. Datesman,** division engineer at Chicago, appointed engineer of track at Chicago; **C. E. Hise,** division engineer of the Chicago, St. Paul, Minneapolis & Omaha (part of the C. & N. W. system), at St. Paul, Minn., transferred to Chicago as division engineer of the Galena division; **G. A. Linn,** supervisor of bridges and buildings of the North Western at Boone, Iowa, appointed division engineer, Black Hills division, Chadron, Neb.; **C. J. Freseman,** assistant engineer, Eastern division, C. St. P., M. & O., at St. Paul, advanced to division engineer at that point; and **M. S. Reid,** principal assistant engineer in the chief engineer's office, C. & N. W., at Chicago, appointed division engineer, Western division, C. St. P., M. & O., at St. Paul.

J. C. Aker, assistant chief engineer of the Nashville, Chattanooga & St. Louis at Nashville, Tenn., has been advanced to chief engineer at that point, succeeding the late **R. L. Schmid,** whose death was reported in the *Railway Age* of September 4. **R. W. Mabe,** bridge engineer, succeeds Mr. Aker, and **S. H. Hailey,** engineer of fuel and water supply, has been appointed senior assistant engineer.

SPECIAL

George P. McCallum, a reporter on the staff of the Portland Press-Herald, has been appointed editor of the Maine Central magazine at Portland, Me., succeeding **H. Cranston Lawton,** who has resigned to return to newspaper work in Massachusetts.

Harold C. McKinley, whose appointment as director of public relations of the New York, Chicago & St. Louis at Cleveland, Ohio, was reported in the *Railway Age* of August 28, was born on September 12, 1907, at Mansfield, Ohio, and attended Ohio Wesleyan University and the University of Wisconsin. Mr. McKinley was a news writer for the Cleveland bureau of the Associated Press from July, 1937, until January 1, 1947, except for Army service extending from October 15, 1943, to November 5, 1945. He joined the Chesapeake & Ohio on January 1, 1947, as press representative in the public relations department and was appointed staff assistant in that department on January 1, 1948, serving in the latter capacity until his recent appointment as director of public relations of the Nickel Plate.

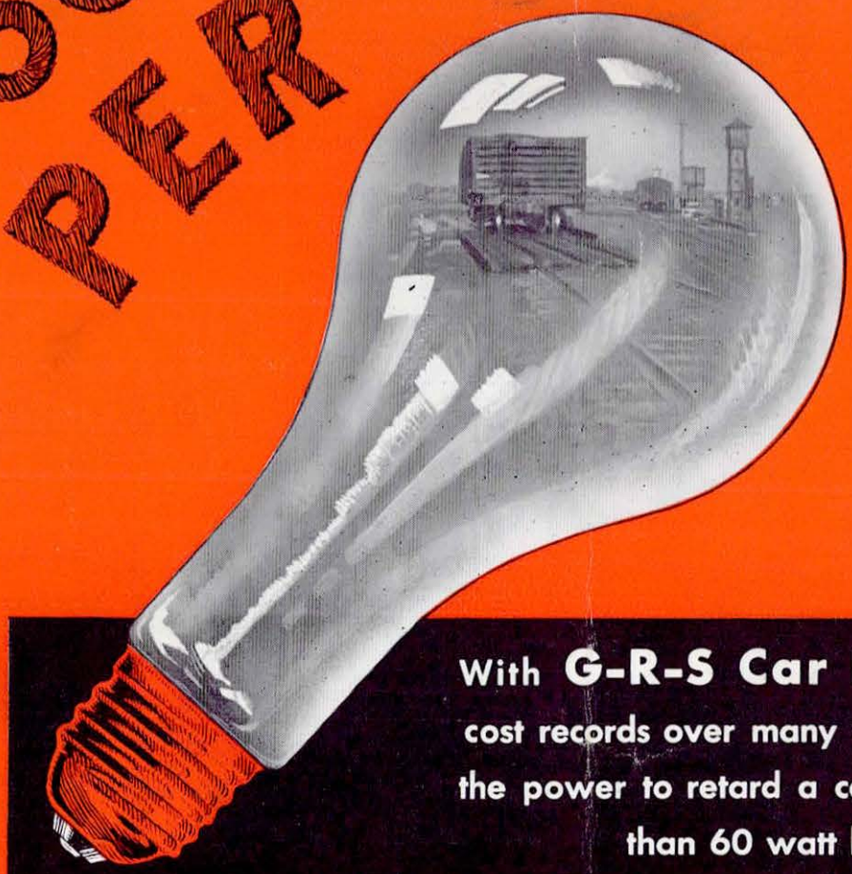
Harold C. McKinley

OBITUARY

James Buckelew, who retired in 1934 as general superintendent of telegraph of the Pennsylvania at Philadelphia, Pa., died on September 18 at his home in Wilmington, Del., at the age of 83.

J. B. Cochran, division engineer of the Louisville & Nashville at Evansville, Ind., died on September 16.

60 WATT-HOURS PER CAR



With G-R-S Car Retarders
cost records over many years show that the power to retard a car averages less than 60 watt hours.

The reasons for this economical operation are:-

(1) Retarders are electrically operated.

(2) Power is used only when it is necessary to move the shoes to or from a retarding position. No energy is required to hold the shoes in position. Therefore, power costs are extremely low.

Many hours stand-by service provides against power failures.

For economical car classification specify

G-R-S All-electric Car Retarders

GENERAL RAILWAY SIGNAL COMPANY

New York Chicago ROCHESTER, N. Y. St. Louis

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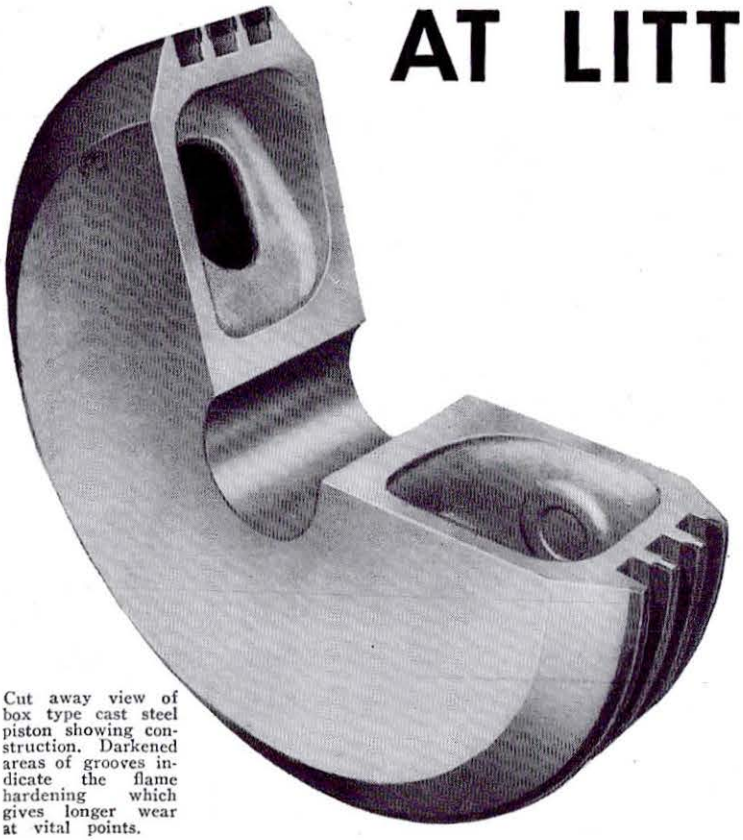
Pep up old power

AT LITTLE EXPENSE



Cut away view of box type cast steel piston showing construction. Darkened areas of grooves indicate the flame hardening which gives longer wear at vital points.

HUNT-SPILLER Light Weight Cast Steel Box Type pistons with Duplex Lip Type Packing Improve performance and cut maintenance

"BORDERLINE" locomotives; serviceable, yet expensive to maintain and inefficient in performance; get a new lease on life by this treatment. Just install Hunt-Spiller box type cast steel pistons and Hunt-Spiller Duplex lip type packing rings. No need to change front and back cylinder heads when you do this. The old ones go back in place, so you make important savings there. From what others have told us, we know that you will be delighted at the results.

Why not get all the facts regarding this installation from your Hunt-Spiller representative? Or better yet, drop a line to Hunt-Spiller today. Hunt-Spiller Mfg. Corporation, 383 Dorchester Ave., Boston 27, Mass. In Canada: Jos. Robb & Co., Ltd., 4050 Namur St., Montreal 16, P. Q. Export Agents: International Ry. Supply Co., 30 Church St., New York 7, N. Y.

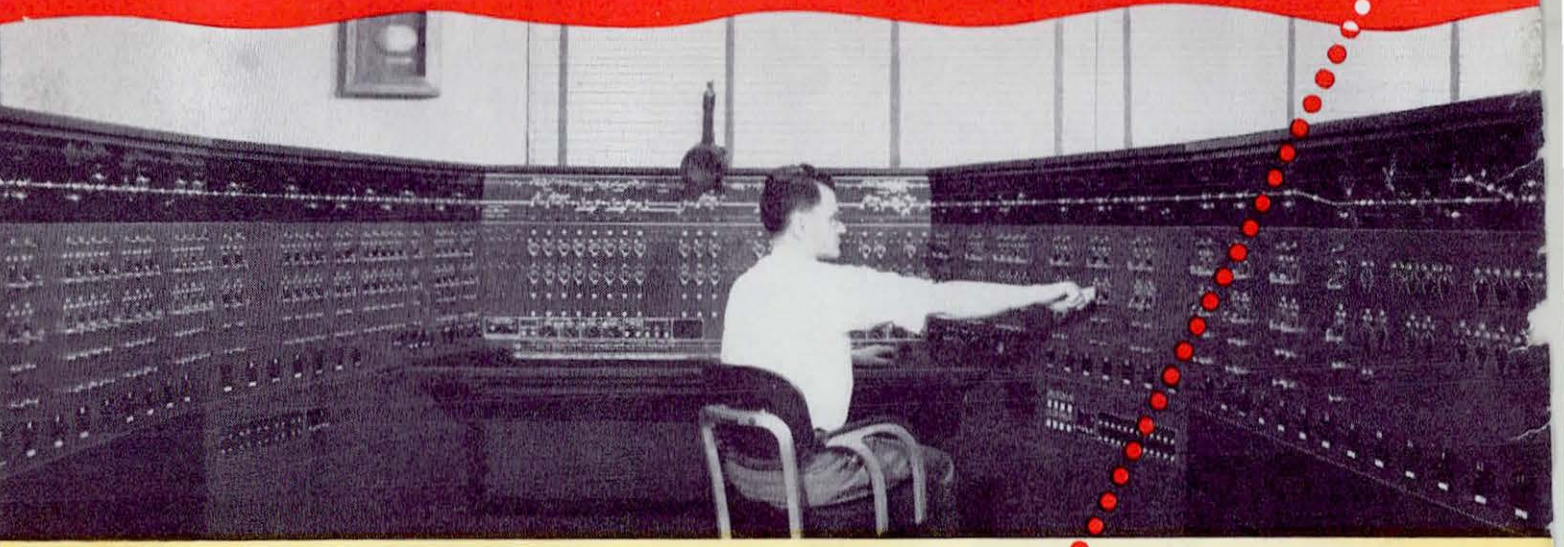
Hunt-Spiller are exclusive railroad sales representatives for Double Seal Piston Rings made for Diesel and other services. Double Seal rings are cast from Hunt-Spiller *Air Furnace* Gun Iron.

HUNT-SPILLER

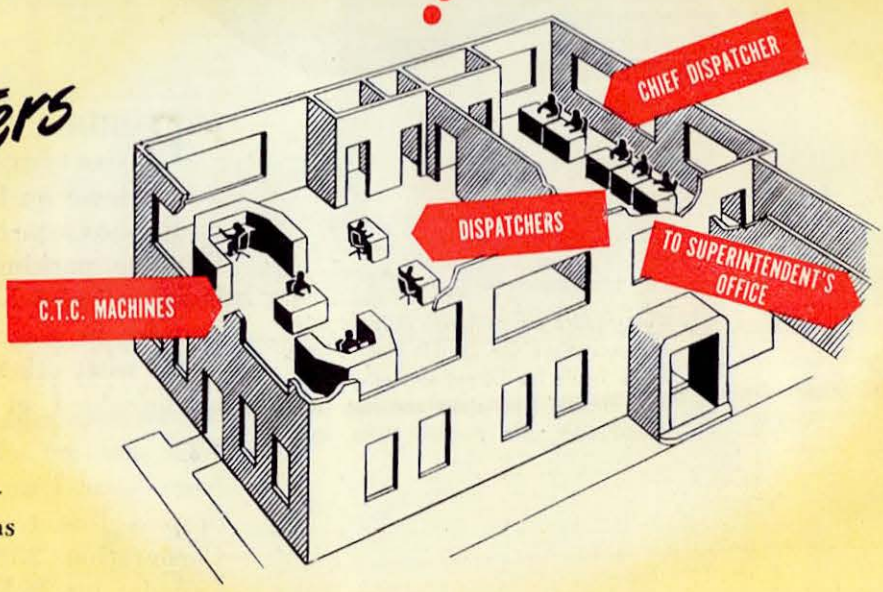
LIGHT WEIGHT
STEEL PISTONS AND VALVES
DUPLEX SECTIONAL PACKING
AIR FURNACE GUN IRON

"UNION" C.T.C. ON THE SEABOARD

concentrates control.....



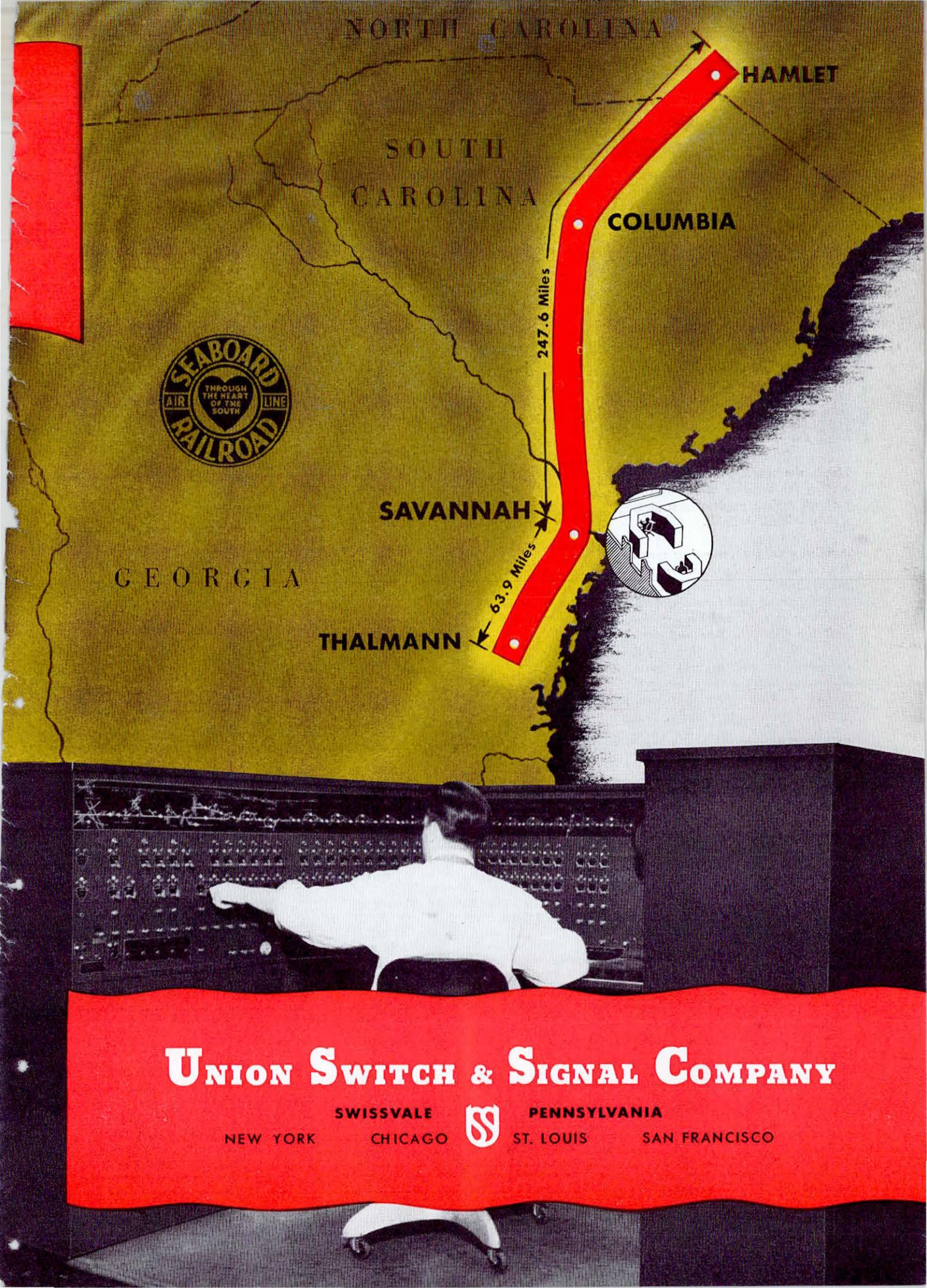
... at Division Headquarters



HEAVY freight traffic, consisting largely of perishables . . . numerous fast passenger trains, with added trains scheduled during the Florida tourist season . . . single track . . . a highly competitive territory . . . these are the conditions faced by the Seaboard Air Line Railroad.

As an important step in meeting these conditions, the Seaboard has turned to extensive signal installations . . . utilizing CTC machines . . . such as the two installations shown here which extend from Savannah, Ga. to Hamlet, N.C. (247.6 miles), and from Savannah to Thalmann, Ga., (63.9 miles). With the two control machines, one for each territory, located at the dispatcher's office in Savannah, train movements are directed by signal indication over the entire 311.5-mile territory between Hamlet and Thalmann.

Installations such as these are enabling the Seaboard to maintain faster schedules with on-time performance, at lowered operating costs. And, with *concentration of control* at division headquarters, *maximum* benefits from this modern method of train operation are secured.



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Here's the tested, tough protective coating far superior to paints and cut-back asphalt products that gives a rich, dull black finish.

Applied with brush, trowel or spray. It's the most practical, low-cost rust preventative for roofs, interiors, and underframes of steel freight and refrigerator cars, covered hopper cars used for soda ash, lime and similar products, ice bunkers and equipment exposed to acid fumes and gases. Just the thing for steel bridges, cooling system ducts and sumps, outside storage tanks, tool houses and bins.

- **Protects against rain and moisture**
- **Protects against salt brine**
- **Protects against acid and alkali fumes**
- **It's odorless**
- **It's non-toxic**
- **It's vermin-proof**

Mortex No. 4 adheres to any clean, dry surface. Will not run, sag, blister or craze at temperatures up to 250° F.

TRY IT YOURSELF!

While most railroads get Mortex No. 4 in the 55-gallon drums, you can order a one or five-gallon test can with easy directions. Put it through your own comparison tests.

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Technical Coatings since 1895
563 Burch St., Kankakee, Ill.

General News

(*Continued from page 66*)

AB Brake Application Date Is Extended to 1950

On August 27, Division 3 of the Interstate Commerce Commission issued an order in Docket No. 13,528 extending the date for application of AB brakes on cars used in interchange freight service to January 1, 1950, the date for completing AB brake applications on non-interchange cars being January 1, 1952. In accordance with this order, the A. A. R. Mechanical Division recently announced in a letter to members and private car owners that the effective date of application of AB brakes, as specified in Par. (a-4) of Interchange Rule 3, has been extended to January 1, 1950.

Honor 25 Years of I. C. Safety

The Illinois Central, between the years 1923 and 1948, has reduced its employee casualty ratio by 93 per cent, from 27.52 per million man-hours worked to 1.95. For this 25-year accomplishment, the National Safety Council will present an award to the road on September 22, at Memphis, Tenn. It will be the I.C.'s fourth award in five years for distinguished service to safety.

The presentation will be made by Ned H. Dearborn, president of the National Safety Council, at a dinner celebrating the founding of the I.C. Supervisors' Clubs. S. F. Lynch, general manager of the railroad, who helped establish the first of the clubs some 20 years ago at Vicksburg, Miss., will be the guest of honor.

Benefit Payments Up 20 Per Cent

All types of retirement and survivor benefit payments made during July under railroad retirement legislation amounted to $23,100,000, or 20 per cent above the preceding month's total of $19,557,000. The Railroad Retirement Board, in the September issue of its "Monthly Review," says the increase is an immediate result of the 1948 amendments to the Railroad Retirement Act, which increased benefits by 20 per cent.

Also contributing to the rise, the board reports, was an increase in the number of July awards to 10,500 from 7,400 in June. On July 31, over 208,100 retirement annuities were being paid by the board, with the average monthly benefit amounting to $84.01, as compared with $70.13 in June. A total of 105,500 monthly survivor benefits were in current-payment status on July 31, at an average of $25.24.

Under the unemployment insurance program applications from railroad employees jumped to 39,500 with the beginning of the new benefit year, but the number of claims received dropped 17 per cent to 59,860. Approximately 31,700 railroad workers were paid benefits during the month.

Sickness claims and payments registered declines as the second year of the program began. However, the number of applications filed—36,900 including 360 for maternity benefits—was 25 per cent more than in June of this year and 37 per cent more than in July, 1947. The rise in applications, declares the board, was probably due to the increased knowledge among railroad employees of the sickness program. Payments for the month, after adjustment for recoveries and underpayments, totaled $1,852,000.

Date of Panama Canal Toll Increase Set Back to April 1, 1949

President Truman has issued a proclamation setting back from October 1 to April 1, 1949, the effective date of increased Panama Canal toll rates, under authority granted by a provision of the Canal Zone Code.

As reported in *Railway Age* of April 17, page 60, rates on merchant vessels carrying passengers or cargo will go up from 90 cents to $1 "per net vessel-ton of 100 cubic feet each—that is, the net tonnage determined in accordance with the Rules for Measurement of Vessels for the Panama Canal." On vessels in ballast without passengers or cargo, the rate will go up from 72 to 80 cents per vessel-ton.

The President's action in deferring the effective date of the increased tolls was lauded in a letter to Dr. John R. Steelman, assistant to President Truman, by F. A. Bailey, president of the National Federation of American Shipping, Inc.

"The action of the President is most practical and realistic and will be of immense help to all American steamship lines, particularly those vessels engaged in the domestic trades and using the Panama Canal," Mr. Bailey commented in part. "As you are aware, these lines are now having a severe economic struggle to reestablish their prewar services and each and every one of them is deeply grateful to the President for his most considerate action."

Bishop, B.R.T. Executive, Dies

William Bishop, vice-president of the Brotherhood of Railroad Trainmen since 1928, died in a Des Moines, Iowa, hospital on August 30. He was for many years a brakeman and conductor on the Northern Pacific and at the time of his death was a member of Division I of the National Railroad Adjustment Board.

August Employment

Railway employment decreased 0.55 per cent—from 1,361,757 to 1,354,327—during the one-month period from mid-July to mid-August, and the mid-August total was 1.92 per cent below that of August, 1947, according to the pre-

liminary summary prepared by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The index number, based on the 1935-39 average, was 130.0 for August, as compared with 130.7 for July and 132.5 for August, 1947.

August employment was above that of August, 1947, in only one category, the increase being 1.46 per cent in executives, officials and staff assistants. Decreases ranged from 0.42 per cent in the maintenance of way and structures group to 6.18 per cent in transportation, other than train, engine and yard.

As compared with July, employment in August also increased only in one group—0.05 per cent in executives, officials and staff assistants. Decreases ranged from 0.20 per cent in transportation (train and engine service) to 1.26 per cent in transportation (yardmasters, switchtenders and hostlers).

Business Leaders, B. & O. Officers Inspect New Toledo Docks

More than 175 Toledo, Ohio, business and civic leaders joined Baltimore & Ohio directors and officers in an inspection of the railroad's new coal and ore dock facilities there on September 17.

Addressing a luncheon prior to the inspection, R. B. White, president of the B. & O., said: "The erection of this installation . . . is a monument to our faith in the future of Toledo, the future of the coal industry, the future of the Baltimore & Ohio and the future of America."

The new docks were described in detail in *Railway Age* of May 1, page 32.

Shippers Hit Proposed Port Fee

At a hearing in Chicago on September 15, shippers and port representatives protested vigorously against a proposal by eastern and southern railroads that there be established a new port handling charge of six cents per 100 lb. on all export, import, coastwise and intercoastal traffic moving through Atlantic and Gulf ports. The carriers maintain that the additional charge is necessary in view of rising port costs.

Representatives of nine railroad associations which have docketed the proposal were told that industry cannot absorb and pass along the contemplated charge, and that it would force a diversion of traffic to other forms of transportation. Shippers criticized the railroads for not offering any statistics to back up their need for the boost.

The proposed port charge was branded as a threat to the nation's export business by A. J. Kelley, chairman of the export-import committee of the National Industrial Traffic League, and one of the principal witnesses. He suggested that the carriers make railroad labor realize the uselessness of continued wage increases instead of asking the shipper to "dig" when the railroads are in need of additional revenue. Shippers, he said, helped the carriers obtain rate boosts from the Interstate Commerce Commission with the understanding that such increases were to include all costs, including port expenses. He further charged the railroads with "scraping the bottom of the barrel" for accessorial charges.

Another hearing on the proposal is scheduled to be held in New York on October 1.

Says Success in Reparations Suits Would Bankrupt Railroads

Should the government succeed in its attempt to collect "fantastic" sums for alleged excessive freight rates on certain of its wartime shipments, the solvency of a large number of the nation's railroads would be destroyed, A. T. Mercier, president of the Southern Pacific, has declared in a letter to the company's stockholders. With such wholesale insolvency, states Mr. Mercier, private ownership of the railroads could hardly survive. He points out that actually the government was saved hundreds of millions of dollars a year during the war through its enjoyment of specially reduced rail rates.

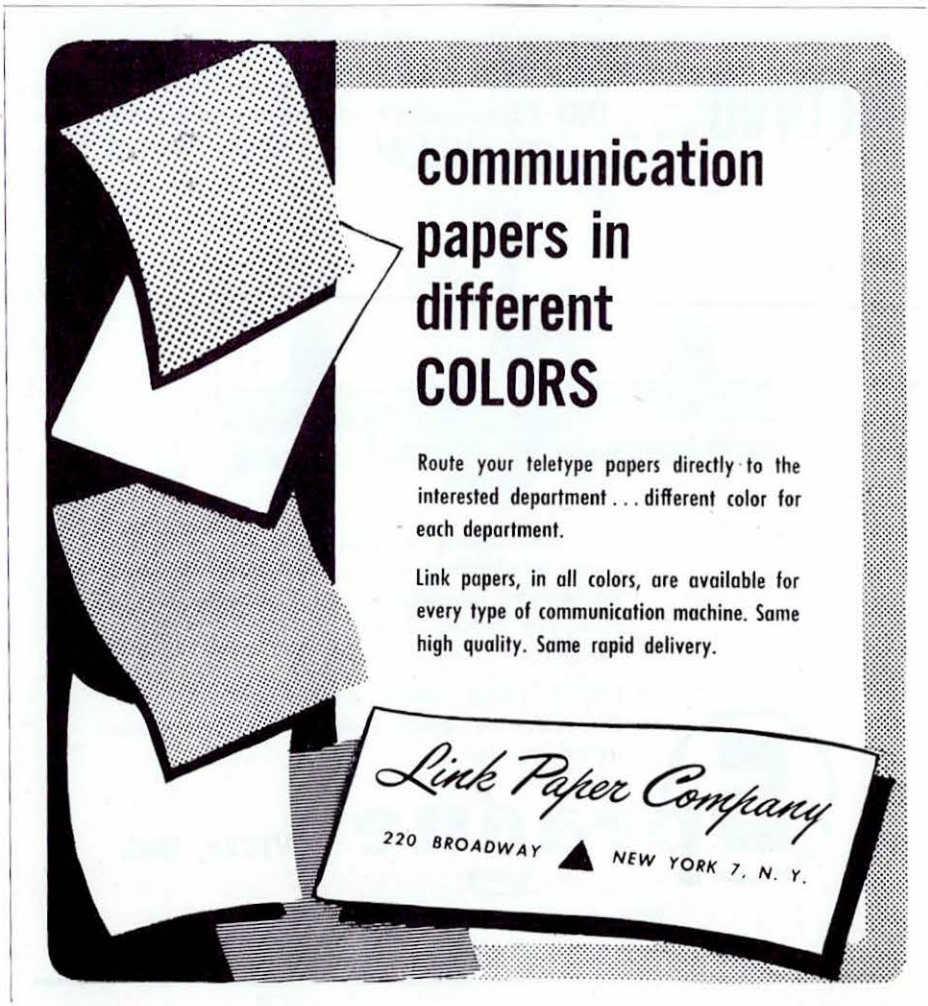
Continuing, the S. P. president states in his letter: "In seeking funds from Congress with which to carry on the so-called reparations cases against the railroads, government attorneys testified that amounts to be recovered would aggregate two billion dollars, and to this would be added interest from the time the freight charges were paid. The total net working capital of all Class I railroads as of December 31, 1947, amounted to only $867,633,299. The aggregate net income of all Class I railroads in 1946 was but $288,534,467 and in 1947, $479,986,480."

Mr. Mercier said that the net earnings of the railroads proved that rates charged during the war period were not unreasonable. He observed that although the carriers transported their largest volume of freight and passenger traffic in history, Class I railroads averaged only 4.97 per cent annually upon their net investment for the five-year period, 1941-1945, and only 2.75 per cent in 1946. The railroads believe they are entitled to a return of at least six per cent upon the value of their properties devoted to transportation service, he concluded.

Smith Calls For New National Transportation Policy

"'Transportation' has become the front line in defense of private enterprise," declared Earl B. Smith, of Minneapolis, Minn., director of traffic for General Mills, Inc., in addressing the Corn Belt Traffic Club at Bloomington, Ill., on September 21.

"There must be an awakening to this very fact," Mr. Smith said, "by leaders of agriculture, industry and finance . . . by the transportation people themselves; by the industrial traffic mana-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ger; by users of transportation; by those in government who believe in free enterprise; and by our great public.

"There must be a realization that government ownership and operation would mean inevitable inefficiencies of operation and increases in costs, with deficits borne by the taxpayer.

"Operation by government would also mean destruction of incentive; political dictation of rates; control by a wasteful bureaucracy over the largest single unit of domestic buying power, and the addition of 10 million voters to the Federal payroll.

"The price of private enterprise is eternal vigilance against those influences that tend to undermine it. . . . Our transportation agencies must be saved to private enterprise to preserve our American way of life. To be saved they must be supported . . . by all who believe in our free private enterprise system.

"The great and pressing transportation problem of this country becomes that of getting all agencies into their proper place. . . . To bring this about . . . there must be a new national transportation policy—a unified and consistant policy covering the five great agencies of transportation.

"The adoption of such a . . . policy is a slow process. In the interim the problem revolves around the matter of keeping our transportation agencies in a reasonably healthy financial position."

After reviewing the present financial situation of the transportation industry, and particularly that of the railroads, Mr. Smith reminded his audience that "There is no justifiable reason for this dilemma of our transportation industry."

"It comes about," he said, "for several reasons—one being that for years we have pursued a national policy which has divided the available traffic among many different agencies. . . . Present regulation promotes wastes of capital expenditures in the transportation system—both government and private. It promotes duplication in facilities, in overheads and in services."

Sawyer Urges Business to Study Effects of Basing-Point Decision

Secretary of Commerce Charles Sawyer has urged American business to prepare for presentation before a special Senate subcommittee a "careful study" of the economic effects of the Supreme Court's April 26 decision upholding the Federal Trade Commission's "cease and desist" order against the cement industry's basing-point system of pricing. Public hearings before the Senate group, of which Senator Capehart, Republican of Indiana, is chairman, are expected to begin in November.

Declaring that the court's decision has aroused "widespread concern" in the world of business, Mr. Sawyer said that "every businessman, every consumer, every community affected by this situation should not lose the opportunity to give Congress the facts." "The public interest requires that those who know the facts should give the facts," he stated. "Meanwhile, I hope that producers, in considering what steps they should take to comply with the law, will, so far as possible, avoid imposing hardships on particular customers or contributing to general inflationary price increases."

Mr. Sawyer said that he is convinced, as the result of conferences he has attended and communications he has received, that many firms, both large and small, are worried about the impact which the decision may have on their own pricing practices. "This is a serious matter and one with which the Department of Commerce is vitally concerned," he continued. "Whether or not the . . . decision actually requires the drastic pricing changes which some members of the industry feel that it does require, the fact remains that many changes are already being made and that the effect both on the producer and the purchaser has been unsettling."

Although it is too soon to tell what the ultimate result of the court's decision will be, Mr. Sawyer went on, it is nevertheless obvious that any extensive revision of pricing practices by industry will affect existing patterns of distribution, particularly in those industries where transportation represents a significant part of the delivered price of a product.

"This could have severe repercussions upon smaller business enterprises which would be among the first to feel the effects of changes in business practices," he declared. "Should there be large-scale resort to f. o. b. pricing by industries now using other pricing methods, the customers of such industries will find their own costs revised. Where these revisions are substantial, the result may be a shift to other suppliers or, in extreme cases, an actual physical relocation of plant facilities with a consequent migration of workers."

Mr. Sawyer said that businessmen "as well as others" accept the Supreme Court's decisions as the "last word" on what is the law and wish to comply with the law. "In connection with this matter, however, they are confused as to the steps necessary to effect this compliance," he added. "Moreover, many businessmen feel strongly that sweeping changes in traditional pricing practices will be harmful to producers and consumers alike. The matter is critical, an appraisal of the factors involved is difficult, and an early and completely objective approach to the problem should be welcome . . ."

Congress Concerned

Meanwhile, Senator Capehart, in an address on September 15 before the subcommittee's so-called advisory council, said that Congress not only is concerned with what the court has held to

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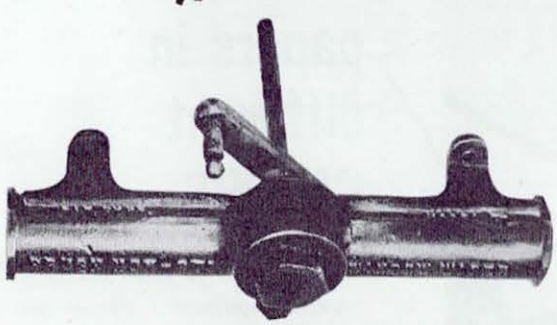

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News Department continued on next left-hand page

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be the law, but also what should be the law on the subject involved in order to best promote the free enterprise competitive system of business.

"We want to know whether uniform delivered prices, uniform zone prices, prices of manufacturers based on freight equalization, and prices reached by a seller in absorbing freight to meet the lower price of a competitor located closer to the customer, are to the best interest of our national economy and the American free enterprise system," he stated.

It is the subcommittee's purpose, Senator Capehart went on, to determine whether the pricing policy proposed by the F. T. C. will merely permit big business to acquire an even larger share of the available business of the country or aid and foster competition in the "American way" which "permits small businessses to expand and grow even at the expense of the large and firmly entrenched enterprises."

Rather than be concerned with the welfare of United States Steel or any other large corporation, Senator Capehart continued, the subcommittee and council should be "vitally concerned" with the welfare of the small and medium-size businesses in the country. "It is not my intention, nor is it the intention of the committee or its staff, to support any pricing system which stifles competition and operates to the injury of free enterprise and individual initiative in the United States," he concluded. "If any basing point pricing system operates in this fashion, it should be done away with. What we should strive to do is clarify the situation created by the court's decision so that industry, agriculture and labor may know the rules under which it may operate. At present, no one can be certain as to what pricing policy, other than f. o. b. mill, is legal. This confusion is detrimental to the country."

The 40-man advisory council also was addressed by its general counsel, William Simon, who also stressed the confusion which exists as the result of the court's decision. "This confusion," he said, "exists to the extent that members of the Federal Trade Commission themselves and members of their staff do not seem to be in accord as to the scope and effect of the decision in the cement case . . . The inability of lawyers to advise their clients with certainty as to what pricing policies are legal, and the inability of businessmen to follow a prescribed policy with confidence of its legality, is a situation which calls for Congressional action."

Basing Point Decisions May Cost New England 33,000 Jobs

"A vigorous denial that it is national policy to work toward a straight f. o. b. mill price system would be most helpful to New England businessmen," according to a report on the effects on New England economy of the Supreme Court's recent basing point decisions. The report was presented to the 92nd quarterly meeting of the New England Council at Dixville Notch, N. H., on September 18, by Dr. Alfred C. Neal, vice-president and director of research of the Federal Reserve Bank of Boston, Mass.

Dr. Neal's report, which was based on questionnaire replies from some 440 New England manufacturers supplemented by over 50 personal interviews and other information, dealt with the effects of the basing point rulings on New England manufacturing from the double standpoint of raw material costs and pricing policies for finished goods. While Dr. Neal expressed the personal opinion that "universal f. o. b. mill pricing is *not required* to be established by the recent decisions or any that are in prospect," his report is based on the assumption that all basing point and zone price systems "used in common by competitors will be outlawed."

On this assumption, he found that "the effects of the basing points decisions on the New England economy are probably greater than any other region in the country because they apply primarily to manufacturing, and manufacturing provides nearly 40 per cent of the total employment in the (New England) region."

"Because some useful purpose might be served by showing the disruption that would be caused by requiring all manufacturers to sell on an f. o. b. mill basis," he said, "we have made a 'guessmate', based largely upon the reports from manufacturers, that if they were all required to sell f. o. b. mill . . . there would be in a prosperous year a loss of almost 33,000 jobs in the region. This figure takes account only of more or less direct short-term losses.

"The figure of 33,000 does not take account of secondary effects upon employment in transportation, services, trade, or the professions, which may run almost as high as the basic figure. . . . Upon some communities the possible loss of the principal employer caused by a shift to an f. o. b. mill system would be disastrous. The loss can be held to this figure only by diversification of production and reshuffling of markets, at best a costly and painful process. The uncertainty has already caused one manufacturer to stop a $400,000 expansion program. . . . Several have stopped all plans for expansion."

New England industries which would suffer the most serious adverse effects and greatest loss of employment, according to Dr. Neal's report, are iron and steel fabricators, particularly wire products, screws and bolts; paper and allied products; nonferrous metals and their products; electrical and other machinery; chemicals; and abrasives.

In the event that present or future court decisions should be interpreted as outlawing freight equalization, but not requiring universal f. o. b. mill pricing, Dr. Neal estimated the loss of industrial jobs in New England between 16,500 and 33,000.

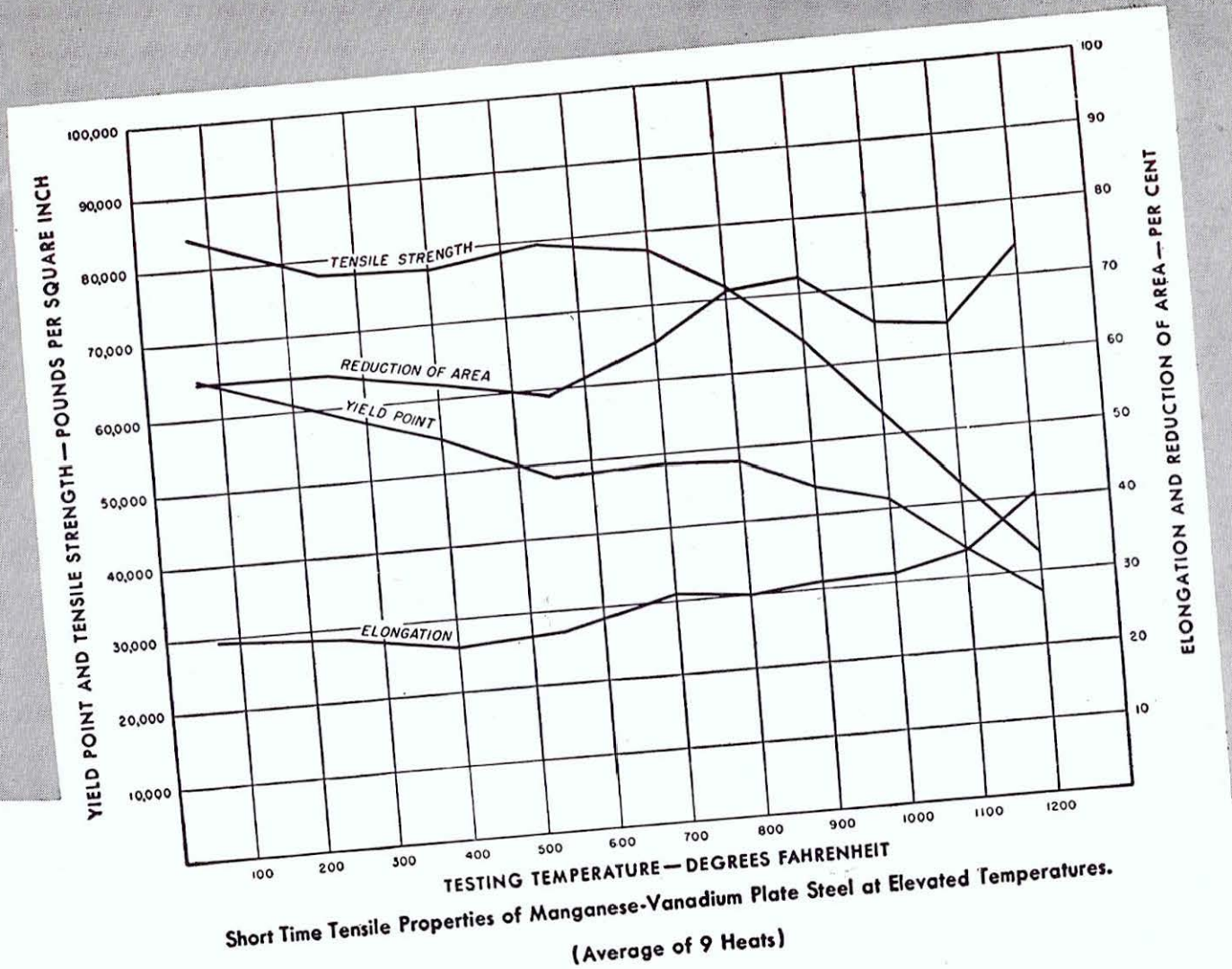
With respect to cost of raw materials, he reported that "the biggest single loss . . . would occur in fabrication of iron and steel." Most of the steel users answering the questionnaire, he said, "reported that their freight costs had been increased because they were buying from mills located freightwise more distant from them than the old basing points. A large proportion . . . reported that if they could change their source of supply they would be able to effect substantial cost savings. . . . In a tight market like that which exists today many . . . also added that they could not get steel from those alternative mills. . . . There is a real opportunity for the steel industry to endear itself to its New England customers . . . by reshuffling customers. . . . If this does not occur voluntarily, it will occur when steel supply begins to exceed demand, if the f. o. b. mill pricing system for steel remains in effect."

Dr. Neal devoted a considerable portion of his report to discussion of the opportunities for expansion of New England's own steel producing facilities which might result from a requirement for universal f. o. b. mill pricing, when combined with recent technological advances in steel production and development of new iron ore deposits in eastern Canada. Such expansion, he said, might more than offset the loss of jobs and other adverse effects of a universal f. o. b. mill price system if, contrary to his own expectations, such a system is required.

Speaking at the same meeting at which Dr. Neal's report was presented, Robert E. Freer and Corwin D. Edwards, chairman and economist, respectively, of the Federal Trade Commission, denied that their body was attempting to establish universal f. o. b. mill pricing, or "to set up local monopolies." Mr. Edwards stated that the commission "has no authority to require businessmen to sell f. o. b. mill, or to impose upon them in any way any other specific pricing practice." He added that freight absorption by a manufacturer was not against any law.

August Revenues 15.2 Per Cent Above Those of August, 1947

From preliminary reports of 82 Class I railroads, representing 81.1 per cent of the total operating revenues, the Association of American Railroads has estimated that the August gross amounted to $697,437,338, an increase of 15.2 per cent above the $605,153,137 reported for the same 1947 month. Estimated August freight revenues amounted to $571,857,490, as compared with $482,756,488, an increase of 18.5 per cent, while estimated passenger revenues totaled $74,819,744, as compared with $77,162,672, a decrease of 3 per cent. The estimate for all other revenues was $50,760,104, as compared with $45,233,987, an increase of 12.2 per cent.



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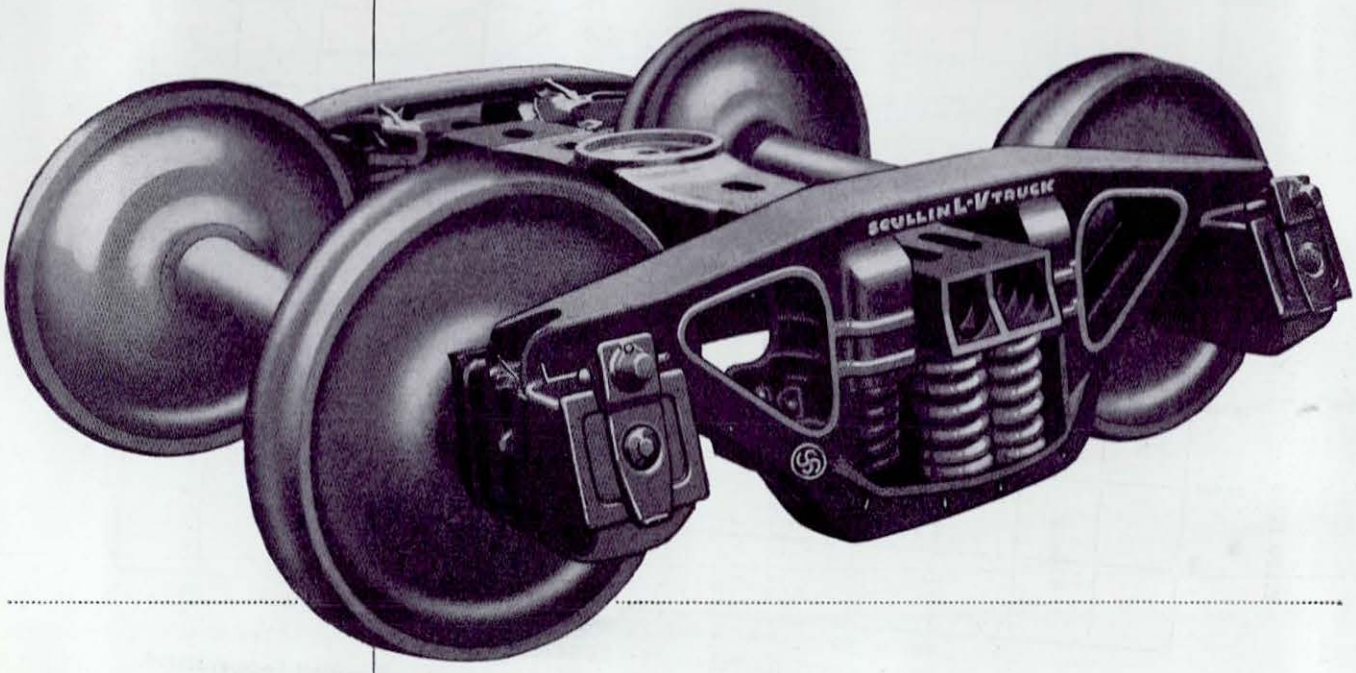

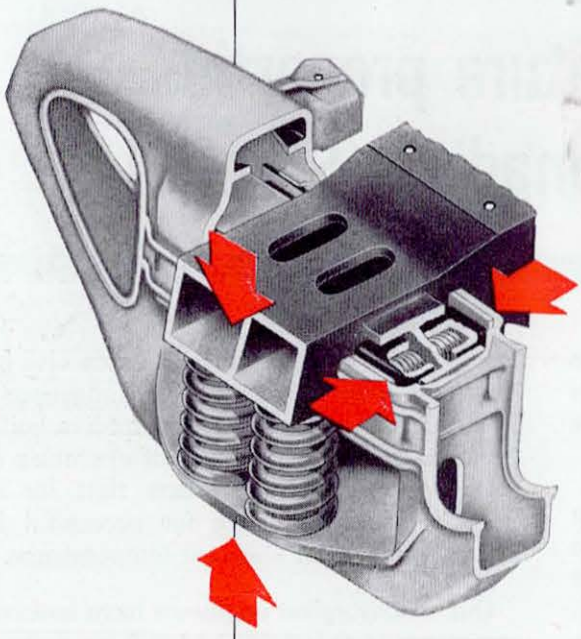

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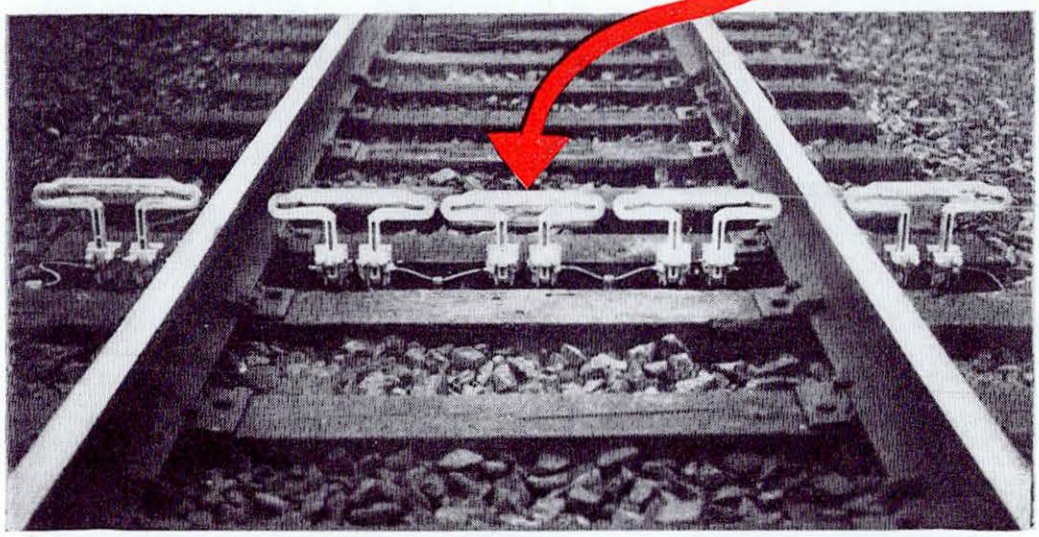

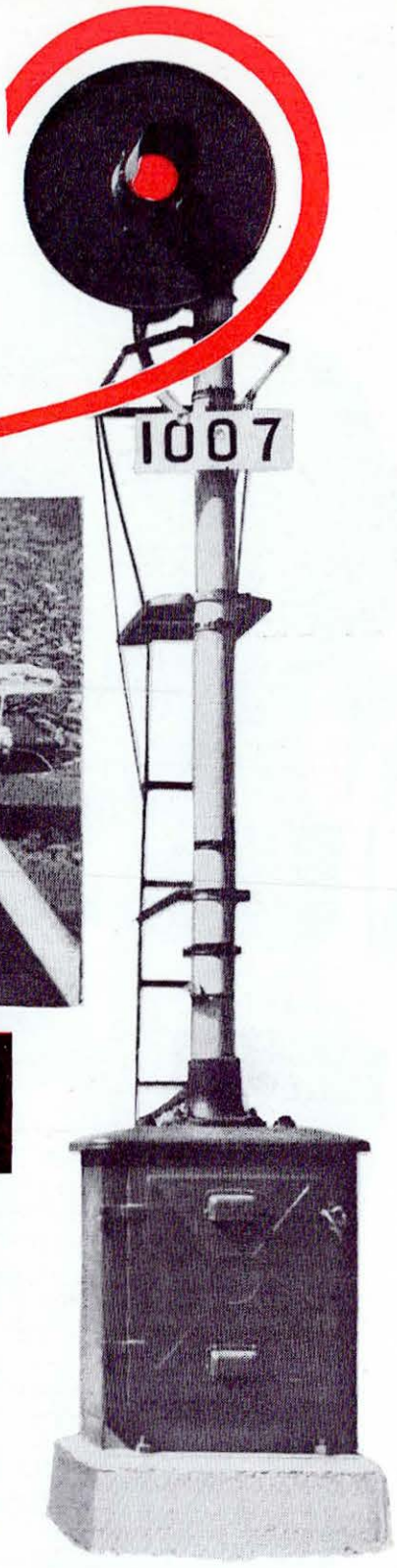

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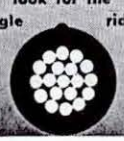

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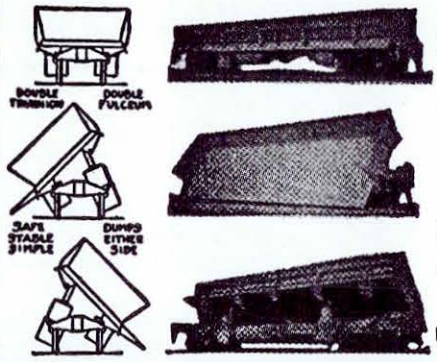

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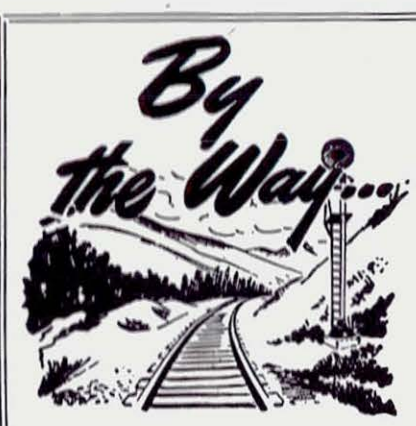


Just a reminder to manufacturers.

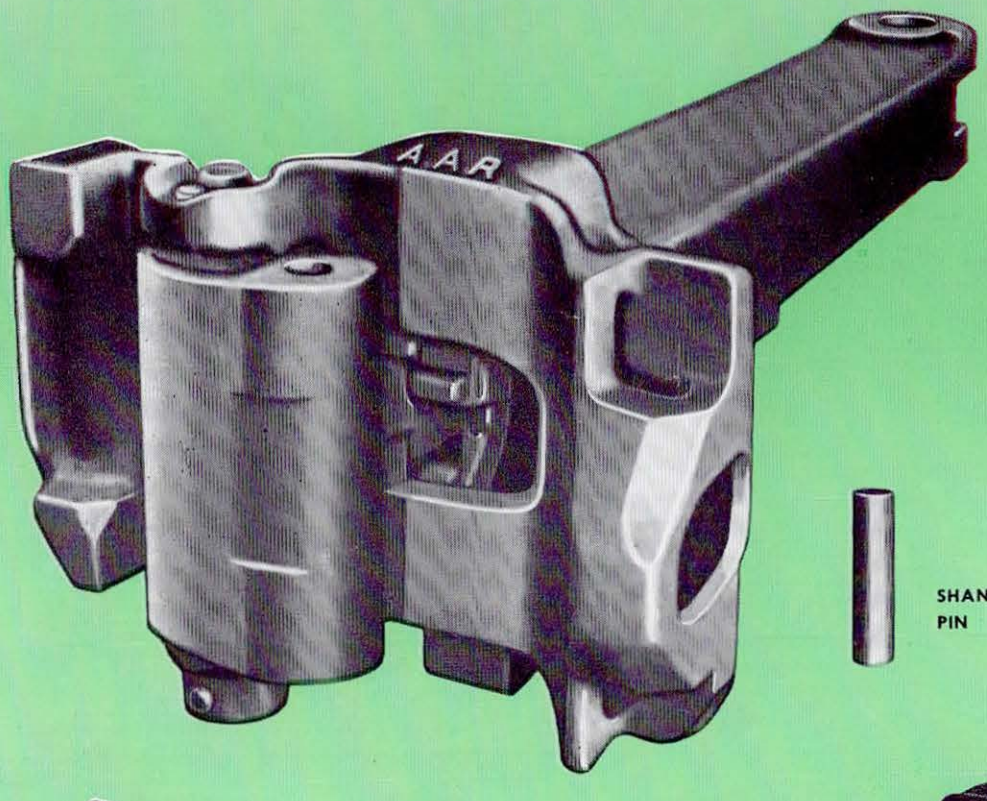
The Chicago and North Western Railway celebrates its 100th anniversary this year—and, as reported earlier in this column, *Railway Age* will feature the event in its October 30 issue.

Timed to appear in the same week as the North Western's own gala celebration this feature will have a special appeal throughout the railway and railway supply industries.

The editorial contents will include a comprehensive history, outlining the progressive expansion of the C & NW, with particular emphasis upon the many innovations that this railway has introduced. From there the story will proceed to the North Western of today, with its splendid passenger train service and freight handling achievements.

Advertisers who are planning a North Western ad for this issue may obtain copy material and photographs from the Public Relations Department of the Chicago and North Western Railway, 400 West Madison Street, Chicago 6, Illinois.

For further information regarding the October 30 issue, address C. Miles Burpee, Vice President and Business Manager, Railway Age, 30 Church Street, New York 7, New York.



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RADIAL CONNECTION

SHANK PIN

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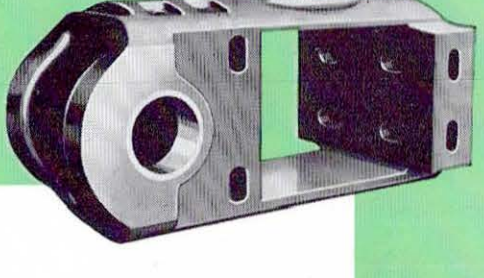
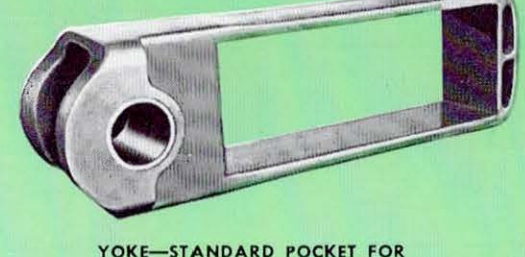


RETAINER

YOKE PIN



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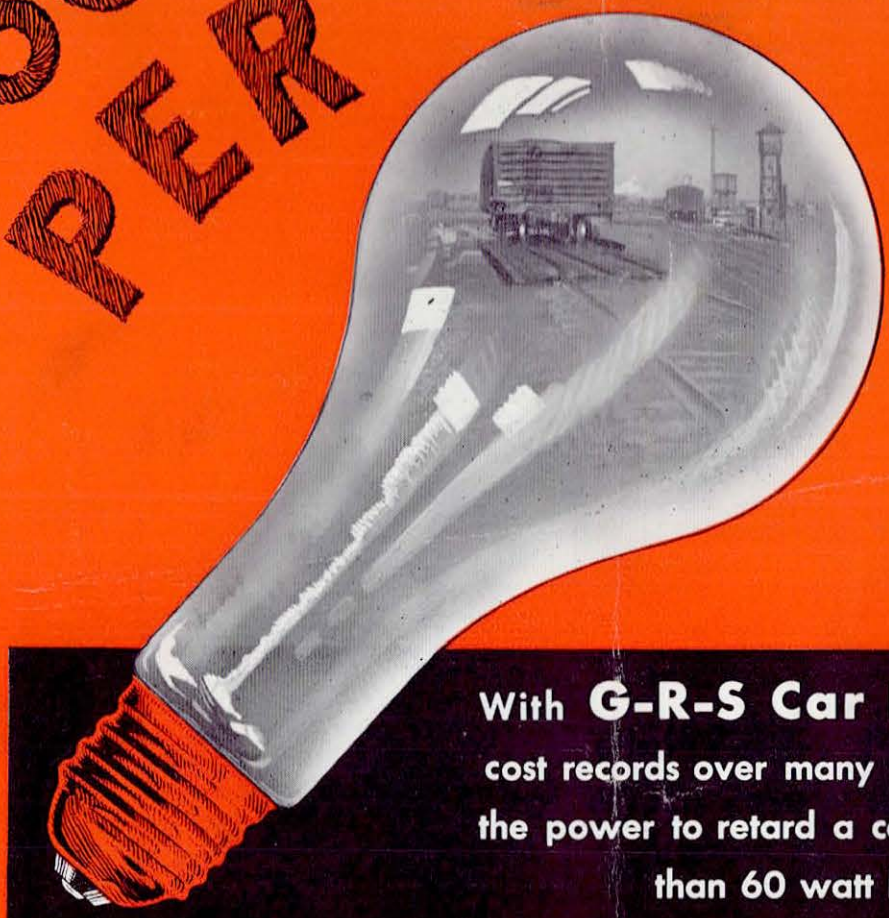

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